THE CULTIVATOR.

THIRD] TO IMPROVE THE SOIL AND THE MIND. [SERIES.

VOL. X. ALBANY, N. Y., JANUARY 1862. No. 1.

PUBLISHED BY LUTHER TUCKER & SON,
EDITORS AND PROPRIETORS, 395 BROADWAY, ALBANY, N. Y.

J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

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The Cultivator & Country Gentleman.

CONCERNING "A GOOD CROP."

We all know that the Farmer is frequently styled, in a pleasing figure, the "bone and sinew" of the Country. We are often assured that a prosperous Husbandry lies at the fountain head of prosperity of every other kind. That Agriculture is the great parent of Commerce; the real source of general contentment and welfare; the actual mainstay of a government.

But do we pause and think of the meaning that is involved in these rhetorical outbursts? Do we not rather wear a knowing smile, as they issue from the lips of the very urbane and affable gentlemen who seek our rustic support at the polls? Are we not sometimes inclined to say, as we read them in our Agricultural papers or listen to them in our Agricultural addresses—"All very well for a pretty period, but I wish you had to follow the plow or swing the scythe for your living, and 'try it on!'" Are we not, in a word, either so suspicious on the one hand of what SAM SLICK or somebody else has styled "soft sawder," or, on the other, so little accustomed to go beyond the limit of our own every-day life, and take a larger view of the affairs and events around us,—that the often repeated testimony to the vital importance of Successful Farming to a Community, to a People, to the World, attracts little or no attention from us—is passed by as a matter of course—and the next time we happen to want a little greater Governmental encouragement for an interest of such surpassing magnitude, are we not quite contented to meet with our usual reception and results—to be promised, and postponed, and snubbed, and forgotten?

Would that we had the space, the ability, and the data,—in the midst of the pregnant illustrations now to be found on every side, of the truth of all that was ever claimed for Agriculture by its most fluent eulogists—to point out in fitting terms the manifold channels through which its successes and failures affect all trade, manufactures, comforts and luxuries, the stability of Institutions, the condition of Society, the progress of Civilization, the hopes and happiness of Man. Taking the low rates which the farmer has realized for the products of the last harvest, we should like to trace the bushel of Indian corn for which he has received 10 cents in Central Illinois, and find it returning 10 cents more to the inhabitants of that State for carriage to Chicago, and 2 cents there for storage; busying the navigator of our inland seas, and paying him over again all that it has thus far cost, to bring it on to Buffalo; leaving its passing tribute there for another handling, discharging its slender toll on our canals, and amply remunerating our citizens for its transportation over them; again, in our great seaport metropolis, contributing a cent or two to agents, and as much more to insurers, and, finally, freighting our vessels for Liverpool, where it sells at last, at a price nine times as large as that at which it was originally purchased. We should like to point out how it has put dividends into the pockets of railroad managers, and enabled bond-holders, here and abroad, to calculate with certainty that *their* income will be safe. How it has lightened taxation in New-York, and busied hundreds of working men all along its way to the Ocean, where the ship-owner and the capitalist welcome it as the signal of sure and healthful activity. How it brings back a golden stream, in turn to be disbursed and distributed, or, through the skill of the financier, to accumulate as the source of a well directed system of credit, and diffuse a beneficial sense of confidence and security through every artery of business intercourse. We should like the thoughtful reader on the Prairies, who has accepted the pitiful sum, as it justly seemed to him, for which this bushel of corn was sold,—to go back in mind to the days before the railroads, and consider in what a situation the river blockade would have left him, without their aid in seeking a market. We should like him, if a Patriot—we should like any lover of his Country, at the East or West, to ponder the reverse of all this picture that has just been sketched—a Nation entangled in civil war, *without* food for its armies—a commerce suddenly brought to a standstill with *nothing* to sell that others want to buy,—the miseries of Famine, waiting close upon the horrors of the battle-field, the losses of the tradesman and the forced idleness of the mechanic.

And we should like to have it borne in mind, that, while, with abundant food and no market, there may be fewer luxuries,—there is yet little peril of starvation. That, with scarcity of food—no matter how vast the other resources of a country—its poorer classes must suffer first, and, in their suffering, involve at length all others, from highest to lowest,—as finances are deranged, paupers multiplied, business grows stagnant, and discontent con-

stantly spreads. That, with productive harvests and ready sales, farms are paid for, churches, colleges and public improvements supported, luxuries both for body and mind diffused,—even the inevitable hardships of war cheerfully sustained, and doubtless turned eventually to good account. That short crops and higher bread, have been prolific of riot and revolution,—sometimes dethroning tyrants, sometimes stifling liberties, often converting the hunger for food into the thirst for blood, reducing humanity to the level of the prowling beast of prey, and nearly quenching the faith of man in man, or in his Maker.

Who, then, can compute, in any calculation of dollars and cents, of guineas and shillings, of francs and centimes, the results, present and remote, that hang upon the prevalence of fine weather or frosts, of rains or drouths, of carelessness or skill, of short-sighted improvidence or far-seeing discretion in the management of the Soil,—in a particular time at a particular place? That we have the sure promise, that "seed-time and harvest shall never fail," is indeed true; but is it not accompanied with the warning that he shall not reap, who does *no more* than watch the seasons in their progress—that he shall not eat, whose industry and energy are found unequal to those emergencies into which at any time he may be plunged? Let us bear in mind the fundamental position which Agriculture occupies—not as a thing to be lightly spoken of with the smile of self-satisfaction, or in the flowery rhymes of the school-boy,—but as involving us in a trust the responsibility of which is incalculably great,—as rendering us, not the almoners of God's *charity* to the world, but the agents of His beneficent provision—a provision which, like the talents of the parable, is susceptible of ten-fold improvement, if we embrace every means of accomplishing it which He places within our reach!

— The time seems to us an appropriate one for a single word of caution. The London Mark Lane Express has repeatedly urged during the course of the past season, that our power of producing a surplus of grain for foreign markets, is now—as some other English journals have ranked our government—quite at an end; and, as recently as the number for Sept. 30th, a correspondent of that journal dating from New-York, decided, entirely we presume to his own satisfaction, that "*this* is likely to be the last year that England may expect any shipments of breadstuffs to a large amount," from the United States! Whether such predictions are to be falsified, rests entirely with the Farmers of the Country; if, discouraged by prices which ill reward their labor, they neglect the *extra effort* that ought to be put forth—in view of the large number who have left farming for fighting,—to ensure the timely performance of spring operations, in the best manner and on a scale as large as possible, we *may* find the country suddenly carried next year from an extreme of plenty to a condition of comparative scarcity, and our importations of foreign goods resumed, without our having produce of any kind with which to pay for them. We confess that we anticipate no such result. But it is wise to avoid all risk, and to err, if error there be, on the side of plenty.

☞ We are much pleased with samples of the "Woodruff Patent Portable Barometer," advertised in another column by CHARLES WILDER of Peterboro, N. H., and sent us by the Advertiser. The contrivance for securing ready portability, as described in his advertisement, is equally simple and effective; the workmanship of his Instruments appears to be all that can be desired, and the prices are certainly not extravagant. Samples of the styles retailing respectively at $12 and $8, may be seen at this office.

THE AGRICULTURE OF NICARAGUA.

LETTER TO THE COUNTRY GENTLEMAN FROM HON. A. B. DICKINSON, UNITED STATES MINISTER.

EDITORS COUNTRY GENTLEMAN—How little man knows of a country from its written history! A bare mention of its location, mountains, rivers, lakes, minerals, chief towns, form of government, the number and complexion of its inhabitants, and the most prominent incidents in its annals—and the subject is considered as exhausted, while the true character of its people, animals and vegetables, and the peculiar qualities of its soil are entirely overlooked.

The history of a country which describes it in such a manner that an observing man, if dropped into it blindfolded, without a knowledge of his route, could not, on emerging to the light, detect his location from its written history, is worse than useless, because it only serves to confuse and mislead where it is intended to be a teacher and a guide. That history which gives but the meagre outlines of a country, though true as far as it goes, is nevertheless as much a libel upon its subject as the careful painting of a human skeleton with all its truthful hideousness, would be upon the living, breathing beauty of the human form. When nature is fully and truthfully portrayed, and all the gaps filled up, we behold at once a symmetry and harmony, and fitness of everything which goes to make up one grand and majestic whole, which we utterly fail to see when half of her parts are left out.

As no two things are exactly alike, and as soil and climate have so much to do with the fashioning of man, animals and plants, one would suppose that the picture of a country could as easily be taken with pen and pencil as the likeness of Washington or Jackson, which a common school boy with a little practice can draw on a board with a coal, with sufficient accuracy for any observing Union man to recognize.

I do not propose to give at this time such a history as I recommend, but briefly to call the attention of the readers of the COUNTRY GENTLEMAN to the

DIMINUTIVE SIZE OF THE CATTLE OF NICARAGUA,

And, I might add, of Central and South America, so far as my observation has extended. The cattle in these localities are about one-half the size of those of the eastern, middle and western States of North America. I have never seen a bullock slaughtered here that would weigh 500 pounds in the beef, nor have I ever heard of one that weighed 800 pounds. The average nett weight of cattle here does not exceed 300 pounds, while in the Northern States it is as high as 600, and I have seen whole droves of cattle in the New-York market that would average 800 pounds each in the beef. Indeed it is no uncommon thing for several to be slaughtered during the holidays weighing in the neighborhood of 1,500 pounds each. The nett weight of "Washington," the heaviest bullock which I recollect of being killed for beef in the States, was, if I remember rightly, over 2,100 pounds.

I have been thus particular with regard to weight for the reason that Mr. Squier, with some other historians, represents the cattle of this country to be quite equal to those of the United States. It is possible, however, that they mean the cattle of the Southern States, which, like those of all hot climates, are inferior in size to those of more northern latitudes.

I know full well how deceptive the cattle of this coun-

try are, with their long, large horns carried high in the air, and yet there is no excuse for writers who make such gross mistakes, even on subjects with which they are not familiar. There are millions of hides exported from these countries, thousands of which annually reach the New-York market, whose average dry weight falls below 22 pounds each. The average weight of green hides in New-York being about 80 pounds, and the hides of two cattle weighing but 300 pounds each being always heavier than the hide of one whose weight is equal to both of them, and assuming the weight of green hides to be twice the weight of dry ones of the same dimensions, which is not far from being correct—and it is not difficult, even from the hides alone, to draw a pretty strong comparison in favor of the cattle of the United States.

The difference in size and weight is not greater than in shape. With limbs as well formed as those of Flora Temple, and their hind feet well set under them, they are ready every time to walk, trot or run, and can kick about as sharp as a deer, to which they bear as close a resemblance in form and carriage as they do to our cattle at home. While the heavier bodied cattle of New-York possess twice the strength and drafting power of these, the latter possess equal advantages over the former in speed and endurance on the road. It is no uncommon thing for them to travel with their accustomed load 30 or 40 miles per day, and I have heard of their being driven 50 miles per day with the thermometer at 85 deg., which I have no reason to doubt. The ox here does all the team work, both on the farm and road, yet I have never seen his tongue out in the hottest of the weather. The horns of a three year old bull are frequently as slim and delicate as a heifer's, but they thicken with age, and do not show a wrinkle for each year, nor diminish in size near the head in extreme age, as they do in our country.

ABOUT BULL FIGHTING—THE COWS AND HOW TO MILK THEM.

Bull fighting, which at home is one of the things we read of, and in countries adjacent to this is occasionally talked of, *means* something here, and only becomes interesting when they have succeeded in killing one or two of the sportsmen, or crippled them for life. When an expert sets out with a lasso fastened to a well trained horse, and captures one of these clean-heeled, slim-horned gentlemen, then when the animal makes his defiant bow, and turns his wicked horns upon his captor, good-bye to horse and rider, unless he has a sure companion at hand to lasso and hold the animal from the other side; and then if man or horse is killed, as frequently happens, it only increases the sport, and they never stop to wink, but another dashes in to fill his place.

The cows of this country generally give about as much milk as a goat, say from two to three quarts per day. Before they milk the cow they always tie the calf to her fore leg. Then they carefully crawl up behind the calf, and the cow is cheated out of what little milk she has, under the supposition that she is giving it to her calf. To attempt to milk the cow without having the calf tied to her fore leg would be considered by the natives as simply preposterous. Besides being "kicked into the middle of next week," they would fail to get a single drop of her milk, which she wouldn't think of giving down to anybody but her calf.

On the cattle estates the milk is manufactured into cheese, resembling what is known in the United States as pot-cheese, with the exception that this is pressed. It is largely used by the inhabitants, and brings from 10 to 12 cents per pound in the market. One hundred cows in this country will make no more, however, than twenty-five in the northern States, as the former do not give more than one-fourth the quantity of milk which the latter do, and even that not half so rich. Butter is, as it were, unknown here, though it can be made of an inferior quality with great pains. Good butter can be brought here, however, from the Northern States, if well made and properly packed for a hot climate, which in time will be done to a great extent, to the mutual advantage of both countries.

The size of man is also less here than in temperate climates. His average weight in this country would fall below 130 pounds, whereas in Maine, New-Hampshire and Vermont it would be 160 pounds, and in New-York and the Western States 150 pounds.

THE VEGETABLE KINGDOM—TREES—LUXURIANCE OF THE SOIL—TREATMENT OF MANURES.

With the vegetable kingdom the difference is still greater, and in favor of this country. It is difficult to draw a comparison, however, as I have never seen but two plants growing wild here, which are of natural growth in the northern States, unless the "cedar" here is the black walnut there, which is quite probable, though it is much larger and heavier here than there, and different in many other respects. All timber here contains more than double the ash that the same amount does in that country. Indeed everything in this country is highly charged with alkali. The soil is made from the out-pourings of volcanoes, and has for ages been enriched with the ashes of burning mountains, which has made this country so unlike all others that it has withstood the worst cultivation ever devised by man to exhaust a soil. The inhabitants all live in cities or villages, and bring everything from the farm to the place of residence to be consumed, without the least particle ever being returned to renovate the soil; and not satisfied with this system, that would in time exhaust any other soil, they sow their corn for fodder, and pull that and the grass up by the roots, with much of the light soil sticking to them, so that when brought in the rain for the animals, which are kept in the towns, the water that runs from the cart loads looks as black as tar water. And this course has been pursued for the last 300 years, with two and sometimes three crops of corn per year, or an alternate crop of corn and tobacco. They are now nozzling up their cornfields with crooked sticks drawn by oxen, to plant tobacco, and that which has been set 15 or 20 days looks better, darker colored, and more thrifty than any other I ever saw in my life, not excepting that which I have seen growing on the bed of a coal pit. All the manure that accumulates here is hauled off and thrown into the rivers, holes or ravines. They never think of spreading it on to their farms or gardens. No one seems to know whether it would do good or harm, as I have never seen the first man that has tried it on either farm or garden. And yet with all this destruction of soil, if one of the farmers has the *calentura*, or from any other cause does not plant his land every year, it will in the course of one season be covered over with a heavy growth of vegetation, ten, fifteen or twenty feet high, as thick as the hair on a dog. I have seen one tree that I was credibly informed was sixteen months old, which was 25 feet high, and 3½ inches in diameter, and I have seen the leaf of a plantain put out and grow in one week to the enormous size of 3½ feet in width, and ten feet in length. There is nothing in the whole vegetable kingdom to which I can compare the plantain tree as it stands in the full beauty of its wide spreading leaves, looking so green and fresh and luxuriant, as though it must have sprung into life but yesterday.

A WONDERFUL TREE, WHICH "GROWS BOTH WAYS."

But the most remarkable tree of all others, and one I never heard of until I saw it, (and yet there are thousands of them on the Polvon and the other rivers that run into the bay of Punta Icaco,) is one which *commences in the middle and grows both ways.* That is to say, the body of the tree commences—according to size—ten, twenty, thirty or forty feet from the ground, with a hundred or a thousand branches running thence to the ground, and spreading in the shape of an inverted tunnel, and if the tree is five feet in diameter, none of the branches being more than two inches through, yet so close together that a bird could not fly through between them. The branches shooting upward are very numerous but larger, and the tree looks as though it did not make the least difference which end it stood on. Cut the lower branches all off and turn it bottom end upwards, and stick the top in the mud, and it grows, they say, just as well. And as though not content with growing either end up, it would seem as

though nature had given it a monopoly of the surrounding soil by furnishing it with a seed about two feet long, shaped like a round steel-pointed arrow, with a slight bulb near the pointed end, which makes it so much the heaviest that it invariably strikes point downward as it falls from the tree, and sticks straight up in the ground, however hard it may be, or if it falls in the water, it is sufficiently dense to reach the bottom, where it commences growing at once.

If this letter was not already quite too long, I would give you my reasons at length why plants have so much the advantage over animals in this country. In short the soil and climate are so favorable to vegetable growth, that the plants get the start to such a degree that they absorb the ammonia, and draw so largely upon the vitality of the atmosphere that they starve the whole animal creation out of one of the essential elements of growth, not even excepting the dogs, tigers and lions, which are the most miserable, poverty-stricken creatures that ever were thought of in a country where cattle, mules and horses are so abundant in the forests, and easily killed by beasts of prey.

I have not forgotten my promise to write and send you some portions of my last year's agricultural address, which I should have done ere this had I not left my memoranda, which, however, I have written for and expect soon to receive.

With my best respects to our agricultural co-laborers, I remain your friend and obedient servant,

Leon, Nicaragua, Oct. 14, 1861. A. B. DICKINSON.

[For the Country Gentleman and Cultivator.]

Agricultural Notes in Monroe Co., N. Y.--No. IV.

Swine---Different Breeds.

In passing through many portions of Monroe Co. one is impressed with a great many features in the agriculture of the county, which may be looked upon as worthy of more universal adoption, and which may properly be considered as the true basis of progressive agriculture, while he meets with a still greater number of circumstances, systems of management and farm practices, which may be set down as tending to deterioration, or *retrogressive* agriculture.

It will not be my design in this place to say much, except in regard to the practices of good farmers.

One very prominent characteristic in the agriculture of Monroe county is the rearing and fattening of swine for market. I think I never have been in any locality in the Empire State where so many *good* swine are reared as there are raised in many portions of this county. It is no uncommon thing to see on a single farm from twenty to fifty swine, and sometimes as many as seventy, of a very choice breed.

There is quite a variety of different breeds, and are all considered good, although when compared with each other there is a marked superiority of some over others. In some instances we meet with the full-blooded Berkshires, and the Suffolks, the Chester Whites, and the Red Russians; and then there are crosses, at pleasure, between any two breeds which are desirable. Of course nearly every breed appears to possess some superior points of excellence over those of some other breed. One man who has the full-blooded Berkshires is sure that they have no equal; while another, who has received a pair of pigs by express from some one of the eastern States, at a great price, is sure that the Chester Whites are the ne plus ultra of the genus Sus; while another thinks there is nothing equal to the red Russians.

In comparing the merits of the various breeds it has appeared to my mind that it is proper to be influenced more or less by circumstances, and after hearing the "hog stories" of a great many men in favor of their own particular breed, I will simply write what I think about the matter, whether it pleases Mr. A. or displeases Mr. B.

The Berkshires.—For form and symmetry, good points, for docility, for quiet and peaceable disposition, and for aptitude to fatten well, and to return the greatest number of pounds of pork and lard from a given number of bushels of grain, I think there is no other breed of swine in the world that we can set down as superior to the Berkshires, providing one is satisfied with hogs of a small size. This is the only objection that can possibly have any influence when the merits and demerits of the various breeds are compared with each other. When a man has a lot of Berkshire pigs he can stand up before the world and defy them to produce anything that will compete with them for beauty or nice pork. There can be no valid objection urged against them, only that they are a little too small for making pork for market.

Every man who has had much experience in fattening swine knows very well that large and heavy hogs will always command from 50 cents to $1 more per 100 pounds in pork markets than those hogs which will weigh only from 200 to 300 pounds when dressed. Many farmers adhere to the Berkshires in preference to all other breeds, because they have such small bones, and make most superior meat, not only hams, shoulders and bacon, but mess and prime pork. Still all must acknowledge an inferiority of size. Nevertheless many contend that what is lost in size is most abundantly made up in *quality* of meat; and for home consumption I am quite inclined to concur in this opinion.

The Red Russians.—Many farmers in this county, contend that the Red Russians cannot be beat, when the object is to fatten swine for market; because they are of a larger size, and if they are a little coarser than the Berkshires, or Chester Whites, and do not assimilate as much fat, nor as readily as some other breed, which many good farmers contend they do not, they will return as much net profit in the end as any other breed, because they are larger, and therefore, will command a greater price per hundred pounds.

These are some of the arguments, pro and con.

Mr. Isaac Bower, North Chili, who has had much experience in raising swine of various breeds, thinks that a cross between the Red Russian and Berkshire produces a very superior kind of swine, not only for market but for home consumption. He showed me some fine shoats of this cross, which approximate the nearest to a perfect breed of swine of anything that I have ever met with. They possess, in addition to all the good points of the Berkshires, greater length, quite as much or greater breadth, and larger frames, and are as docile and quiet, and apt to fatten as any other breed.

Mr. Bela Dunbar had recently received by express, a pair of Chester Whites, which were very nice indeed; but when they were compared with Mr. Bower's shoats of about the same age,—the product of the Red Russian and Berkshire—I was compelled to think Mr. B.'s pigs the best.

We called at the residence of Mr. Wm. Gridley, who owns a small farm, and has some very good cattle of grade Durhams, and a good herd of Berkshire swine.

On making inquiry for his good improvements in agriculture, we met with none worthy of recording, excepting his rat and mouse-proof corn house, beneath which was a hog-sty. The floor of the corn house is about four feet from the surface of the ground, and the outside was provided with a system of movable slats, which could be drawn along in stormy weather, over the spaces between the main slats, which are nailed to the timbers of the building.

This arrangement subserves a two-fold purpose. One is, to exclude the rain and snow in stormy weather, which is liable to find its way between the timbers, or into the joints, thus hastening their decay; and another object is—and a very important one too—to open large spaces in fair weather, for the admission of a good supply of air, to cure and dry corn in the ear.

Raising Field Peas

Is another prominent feature in the agriculture of this county. In almost every locality where I passed through, and on almost every farm, there would be a field of peas,

and on some farms there would be a very large field of them. It was no uncommon occurrence to see fields containing some fifteen, some twenty, and even in some instances, forty acres of peas.

The kind of peas which are most commonly raised, are what they call the Canada field pea. The fruit is rather small, although the yield per acre is good; and so far as I was able to learn by inquiring of those who were pointed out to me as most successful and thorough farmers, the pea crop is about as profitable a crop as any other that they are accustomed to raise.

Those who are accustomed to raise much peas, usually aim to have a good lot of shoats in a thrifty condition, as soon as the peas are matured enough to feed, when they commence feeding them in vines, three times, daily, as many as they will eat without wasting any. Sometimes the vines are fed in the pens, and sometimes they are fed in the fields. Those farmers who appreciate the value of good manure, make a vast amount of it when their swine are being fatted, while those who do not value it as highly as they should, feed their peas in the highway, or in any other convenient place, where they will not be troubled with the labor and expense of hauling it, and spread it on the fields. Many farmers commence feeding the peas in the vines, while many of them are quite green; and in this way they can be fed for a long time before they become so hard that it would be more profitable to grind them, than to feed them whole.

The quantity of seed per acre varies from two and a half to three and a half bushels; and the yield per acre varies according to the fertility of the soil, and the manner of cultivating it. Some farmers receive not more than ten bushels per acre, while many who make and apply a good burden of barnyard manure, obtain over thirty bushels per acre, in many instances, although that amount is a very large yield, and much more than the average number of bushels throughout the county.

Modes of Harvesting Peas.

I visited several farms where the peas were being harvested, and it was truly surprising to see what a laborious and expensive job some farmers would make by the manner of harvesting them.

In many instances tney gathered them into heaps about the size of a good forkfull, by *rolling* them, as it is termed. This is done with a grass scythe, by running the scythe into the uncut peas, and then by continuing to step backwards, rolling them over and over, cutting off some and pulling up others, until a bunch is collected large enough for a forkfull. But this is a very slow way of harvesting them.

Another way is to rake them with the old fashioned horse rake, or with a revolving rake while the vines are wet with dew or rain, so that they will not waste by shelling. When they are gathered in this way, there will be vines beneath the winrows, which the rake does not pull up or sever from the roots. In such instances, the winrows are thrown into bunches with forks, when those that have not been loosened with the horse rake, must be pulled up or broken off with the fork, which makes much unnecessary labor.

The best and most expeditious manner of harvesting them, and which was adopted in some instances, is to rein the horse away from the unraked peas as soon as the rake was filled, and empty it on the ground where the peas had been raked. According to this plan of harvesting them the horse and rake must be turned around every time the rake is emptied. But this is a much more expeditious and easier way than either of the others to which allusion has been made.

I observed that the best farmers did not allow their peas to become dead ripe before they were harvested, but that many of the pods would be quite green when they were raking them. When they are allowed to become quite ripe many of the pods will be so ripe that a great many will be lost by shelling.

When a farmer has a large field of peas, as they are very bulky, it is not practicable to house them, therefore they are put usually into very large stacks, and in some instances they are fed to sheep during the foddering season, and small shoats, and swine of all kinds, are wintered on them, and they thrive well.

When peas are ground into meal for horses and neat cattle, they are usually mingled with an equal amount of oats and Indian corn, as the meal of peas is quite apt to operate as a laxative when fed to horses or neat cattle. Ground peas and Indian corn and oats, or wheat bran, in equal quantities, which is fed to stock of almost all kinds, I can testify is most excellent feed for calves during the foddering season, and good also for cows that give milk, for increasing not only the quantity but the quality of it. Let a good cow have good cornstalks and good hay daily, and be slopped with the meal of peas and Indian corn and wheat bran, and there will be no complaint about poor and thin milk and white, sickly looking butter.

Peas before Wheat.

As peas usually take possession of the soil when it is in a good state of cultivation, the crop is considered to be a good one to precede a crop of winter wheat, as the soil is left remarkably clean, and in good tilth, with only once plowing and harrowing for the reception of the seed. In some localities, however, where there is a preponderance of clay in the soil the ground is plowed in autumn after the pea crop has been removed; and the next spring, after being plowed, spring barley or wheat is sowed or drilled in, when a very remunerative crop is obtained, providing the soil is not too wet for a good crop to grow. So far as I made inquiry, both among good farmers and bad ones, they prefer to raise a crop of peas before sowing winter wheat to allowing the soil to remain in summer fallow, unless the soil is so overrun with noxious weeds as to need summer-fallowing to subdue and eradicate them.

I saw a great many fields from which a crop of peas had just been harvested, which were almost as clean as a summer fallow, which has been well taken care of—and much cleaner than many fallows which were in so good tilth, that a man could excavate a hole with his boot, down to the subsoil, with very little exertion.

Peas an Exhausting Crop.

Many good farmers with whom I conversed on this subject, contend, that a crop of peas will exhaust the soil less than any one crop of cereal grain. They contend, that by their broad system of large and porous leaves, they obtain far more nutriment from the atmosphere, than those plants which are supplied with very thin and small leaves; and that they stifle the growth of noxious weeds, which exhaust the soil. This coincides quite favorably with the theory of some vegetable physiologists, that leguminous plants exhaust far less than cereals. But, I am inclined to believe, that this depends in a good degree on circumstances. Peas and beans also, are leguminous plants, and I am well satisfied that they exhaust the soil much more than we are willing to admit. It is not denied that leguminous plants draw a good supply of nourishment from the atmosphere until fructification commences; and could they be removed from the soil before the fruit begins to form, they would exhaust but little, providing they could be consumed on the farm, and the manure returned to the soil. But, when plants are allowed to stand until all the seed has come to maturity, a large quantity of the nutritive matter of the soil is sucked up in forming that seed, which, of course, exhausts the soil.

As a very small proportion of the nutritive matter taken from the soil to produce the wheat crop, is ever returned to the soil in the form of manure, wheat is considered a very exhausting crop. It not only exhausts the soil where it grows, but it impoverishes the farm, as no other field is improved in fertility, while another may be somewhat impoverished. But as peas are about all consumed on the farm where they are produced, when the system of farm management is as good as it should be, in order to render farming a paying, and at the same time a progressive system of agriculture, they may be set down as much less exhaustive to the soil than either of the cereals, unless they were consumed in the same manner. A crop of peas when properly consumed by stock

of any kind, will yield a great amount of the best of manure, which, if it is properly saved and returned to the soil which produced the peas, will return an ample compensation for all the elements of fertility which were taken up in the production of the crop.

In one case, peas would exhaust the soil; and in the other they would improve its fertility, when they are raised in rotation with other crops, and none of the manure of the farm wasted. S. EDWARDS TODD.

[For the Country Gentleman and Cultivator.]

CHEAP FENCING---SOD FENCES.

If farmers should estimate the actual expenses of keeping their lands thoroughly fenced, they would be astonished at the annual outlays to effect this object. With many the business is so carelessly and hastily done, that continued repairs or loss by damage to crops from wandering and mischievous cattle, that it actually costs them more than it would have done to have formed safe and durable enclosures in the commencement. In short, expensive as good fences may be in the outset, they are the only economical ones that can be made. Hence, heavy wall, where permanence is required, and where the material is at hand, is entitled to the first place in the economy of fencing. Next the rail fence has its advocates. There was a time when its cheapness entitled it to credit—when rail timber was cheap. We have seen rail fences so thoroughly made that they stood from twenty to twenty-five years. In such cases, however, the timber was good, and great care taken in laying and staking. But in the older sections of the country, rail timber is becoming scarce. The price of good chestnut rails has advanced one-half in twenty years. The eagernes for more cleared land, has removed most of the timber, and the introduction of chestnut, from the beauty of its grain, to finer uses in manufacture, promises to prevent its use much longer for rails or firewood. Something else must be used for fences. Where stone can be obtained, they will probably be more generally used.

When we commenced we had in our mind the *turf* fence, which is becoming somewhat common in this vicinity. It is admirably adapted to line fences and along the highways, especially in low lands, where it fences and drains. The manner of construction is, to mark the width of the fence at the bottom, which, of course, is determined by the height to which the fence is to be carried; then the turf is handsomely cut on either side, and laid up in a line with the grass side out. The space between the two line of turf or inside of the fence, is filled in with earth from beneath the turf, or small stones, or in fact any thing sufficiently compact to make a solid bank. Then another tier of turf is cut and laid upon the former one, and so on until the fence is completed, with a fine slope from the bottom upward. The cost of such a fence, four feet high from the surface or five and a half feet from the bottom of the ditch, has been seventy-five cents a rod; and taking the ditch and embankment, it is ample protection against any animal.

These fences can be made at any time except when the ground is frozen, but are better made as early as June or July, so that the earth may become well settled, and the sides well sodded, before the fall rains come on or the frosts of winter set in.

The appearance of the fence when it has stood a short time is very fine, being a breastwork of verdure, while it actually takes no more land than an ordinary wall, for there is feed all over its surface. So far it promises durability simply from the protection the turf affords, but it would probably be benefitted by setting plants disposed to make much root on the top of the embankment.

Another style of fence, cousin to the above we suppose, has been somewhat adopted—is first to set posts at proper distances for fence posts; a ditch is then dug on one side, and turf foundation carried up, over which the fence is finished, with two or three narrow boards, the number being determined by the depth of the ditch and height of the embankment. This fence is cheaper than one of all boards, and has the further claims that sheep or swine cannot crawl under it, and that the ditch subserves the purpose of drainage.

At present these two kinds of fence promise cheapness and durability. What the future may reveal concerning the latter, however, time must determine. Either of these are more pleasant to the eye than ragged walls or the old fashioned zigzag rail fences.

Richmond, Mass., Nov., 1861. WILLIAM BACON.

[For the Country Gentleman and Cultivator.]

A CHAPTER ON TOBACCO.

EDS. CO. GENT.—As the old song has it, "Tobacco is an Indian weed," and a vile weed it is too; nevertheless, men and women, and even children, will in one form or another make use of it. Millions of people daily chew, smoke, or snuff it, and they will continue so to do as long as water runs and tobacco is grown, and it is a nearly useless task to argue and reason with them of the expense of it, or of its deleterious effect upon the human system, or of the filthiness of the habit. In despite of all these, chew, smoke, and snuff they will, whether tobacco is ten cents or fifty or more cents a pound, or cigars are two for a cent or ten cents for one cigar. It makes but little difference—indulge in the luxury they will. In these matters this is yet a free country, and every one has the privilege of doing as *he* or *she* pleases—providing they do *right*, and enact no *wrong* in their doing. And it does not well become me, an habitual user of the weed of forty years standing, "to get up in meeting" and declare the use of tobacco wrong. No man is obliged to bear testimony against himself.

The truth is, mankind are as the poet Burns said, "an unco squad," having many evil propensities, and unfortunately too many of us are prone to gratify them. Therefore we must take human nature as it is, and men and women as they are, and a portion of them will use tobacco, despite all the scolding and lecturing of a whole army of self-styled reformers and anti-tobacco societies, to say nothing of the expense—which, by the way, is no trifling sum with thousands, both of the rich and the poor. At the low price tobacco has been selling for years past, it has cost many a stingy farmer from $5 to $15 per year for tobacco for his and his family's use. If his town or county should assess upon him such an additional *tax* for educational or other public purposes, we should probably soon hear him talking loudly about the *right of secession*.

Tobacco has risen very much in price during the past six months, and if this deplorable war continues for some two, three or more years, as some persons predict, it will reach a higher figure per pound than the most inveterate chewer or smoker ever dreamed of, unless a large portion of the farmers of the free States go into its culture—if not largely, they should raise enough for home use. The plant can be successfully and profitably grown in all the "Free States," as was the almost universal practice among the farmers here in central New-Hampshire, half a century ago. I have recently inquired of several of our "oldest inhabitants," in reference to its culture, curing, &c., and find they were precisely as now practiced in Connecticut and other sections where grown upon a large scale.

The past season I grew a few splendid plants. For smoking, this "home grown" is tip-top, and for chewing I get the "natural leaf," pure and undefiled, and uncontaminated with the sweat and tears of the negro slave, or of copperas, licquorice, bacon rinds, and other filthy stuff, as is the case with some of the manufactured tobacco from "Dixie land."

Self-interest and a just pride of independence should prompt farmers, as far as possible, to raise every necessary farm product for family use—tobacco included, if needed. But some will say, tobacco is wholly unnecessary, and that the culture of it is immoral; all that may be

true. By the same rule it might be objected to the raising of corn and rye, because from them they distil whiskey. So of hops and barley—because they are converted into lager beer—grapes, or its juice into brandy. Some one has said that man was a bundle of habits, and such is the force of one of these habits, that some persons, if they cannot purchase tobacco, will beg it—if they cannot beg it, will steal it if they can. I hold that it is better to grow it than to obtain it by either of the above named means. Therefore I go in for raising the weed, and advise others, if they can't get along without it, to do likewise. Any one that can raise good cabbages, can raise tobacco. Those that wish to go into its culture on a large scale, will find ample directions in the N. Y. State Agricultural Transactions, 1859, with well executed plates illustrating the various processes, from the seedling plant, till the crop is ready for market, by the Hon. GEO. GEDDES. The COUNTRY GENTLEMAN will confer a great favor on many of its readers by republishing the whole essay, with the plates—say about the 20th of next March.

N. H., Nov., 1861. L. BARTLETT.

Our correspondent seems to have overlooked the fact that the Essay of Mr. GEDDES, on the cultivation of tobacco, was published in the COUNTRY GENTLEMAN of September 27, 1860, with all its illustrations. It was also published in THE CULTIVATOR for 1860, Nov. No., page 338.

[For the Country Gentleman and Cultivator.]

PREPARATION OF BONES FOR USE.

EDS. COUNTRY GENTLEMAN—In your paper of Nov. 14, you ask for a practical and inexpensive method of preparing bones for use.

I will give you my way, which is so simple that, although I have practiced it for years, I should not have thought of parading it in your columns, but for your inquiry, and also because our friend HOWARD of the Cultivator, who notices and remembers everything practical and useful, commended it in his last week's paper. I set an old cask with one head in some convenient spot back of the house, in the spring, and of the bones which have accumulated through the winter, I throw in enough to cover the bottom; then enough of unleached ashes thoroughly to cover them; then another layer of bones, then ashes, and so in alternate layers until the cask is full. On top is placed a sufficient covering of ashes, loam or charcoal dust, to prevent the escape of any gas. I usually wet down the ashes as I proceed, and leave the cask exposed to the weather, that they may be kept damp. By the next spring, when I wish to use them, the bones are thoroughly digested and in a fit condition to use.

By this management I preserve all the material of the bones, and it stands to reason that they must be more valuable than those from which the animal matter has been extracted by the soap boilers, and which are then burnt for the sugar refineries, and then made into superphosphate.

I usually take the mixed bones and ashes, and compost with well rotted manure, a liberal sprinkling of plaster, a little guano and salt, and a load of sweepings from the blacksmith shop, of iron scales, charcoal dust, horse hoof parings and the manure made there. This I apply to trees, especially pears.

The growth caused by this is astonishing; as you perceive, this compost contains all the requirements, both for growth and fruit, better than any purchased superphosphate, for it has the potash so essential to the pear, and the iron, which is very important. I also prepared my grape border with this.

I not only use the bones saved from our own family, but buy a good many, paying Irish and German boys for collecting, about half a cent per pound, which is the market price obtained by the cutlery works for their refuse bones.

I have great faith in the efficacy of both ashes and bones, and I think this combination of them is both cheap and useful. JAMES S. GRENNELL.

Greenfield, Mass., Nov. 17, 1861.

[For the Country Gentleman and Cultivator.]

Two Words about Raising Potatoes.

Sometime this year I saw in the Co. GENT., the advice of a subscriber not to plant potatoes on the same ground two consecutive seasons. This may be prudent in some cases, but the opposite course has been successful with me. I planted last spring, potatoes on the same ground for the fourth time, year after year, and without manure of any kind, and they grow better and larger. This year I tried the *California potato*—one weighed 2 pounds and 10 ounces, and the greatest number between one and two pounds. The soil is a part clay, the balance a mixture of clay and black loam. We call the California potato a most excellent kind for the table and for feeding—very productive and free from disease, and far superior to the Prince Albert so much praised. B. JAIN.

Dane Co., Wisconsin.

[For the Cultivator and Country Gentleman.]

PREPARATION OF NIGHT-SOIL.

EDS. COUNTRY GENTLEMAN—In reply to your correspondent from Cannelton, Ind., in your paper of the 7th Nov., I beg to enclose an extract from a pamphlet lately published by a clergyman in England, entitled "National Health and Wealth," by Rev. Henry Moule:

"The great agent in this mode is dried surface earth, the extent of the capabilities of which, both for absorption and for deodorizing offensive matters, I accidentally noticed about seven months ago, and the truth and correctness of which observation has been proved by daily experience.

"Under a strong impression of the evils occasioned or likely to be occasioned, by the vault or cess-pool on my premises, and feeling it to be a nuisance to my next neighbor as well as to myself, I filled it up with earth, and ever since I have had everything that would otherwise have gone into it, received and removed in buckets. And even this mode of removal, though offensive in idea, has proved far less so in reality, than even a very small portion of the evils it is intended to remedy. At first the contents of these buckets were buried in trenches about a foot deep in my garden; but on the accidental discovery that in three or four weeks after being thus deposited, not a trace of this matter could be discovered, I had a shed erected, the earth beneath sifted, and with a portion of this the contents of the buckets were every morning mixed, as a man would roughly mix mortar. The whole operation of removing and mixing does not occupy a boy more than a quarter of an hour. *Within ten minutes after its completion, neither the eye nor the nose can perceive anything offensive.*

This was the first observation I made. The next was this—that when all the earth *which did not exceed three cart loads*, had been thus employed, that which had been first used, was sufficiently dried to be used for the same purpose again; and it absorbed and deodorized the offensive matter as readily as at the first time; and so singularly does this capability continue, that a portion of it has been used for a fifth time for the same purpose; and thus all that offensive matter, which otherwise would have been wasted in the vault, a nuisance to my house and the neighborhood, and a source, it may be, of sickness and disease, was converted into a mass of valuable manure, perfectly inoffensive both to the eye and nose.

"I have the same day submitted some to strong fire heat, and that which unmixed with earth, would under such heat have been intolerable, in this mixed state emitted no offensive smell whatever." T. E. C.

St. Hilaire, C. E.

THE EXHAUSTION OF SOILS.

In visiting the Experimental Farm of J. B. LAWES, Esq., at Rothamsted, in 1859, Mr. L. pointed out to us land upon which wheat had been grown for the past eighteen years consecutively, in plots, without manure, manured with farm-yard manure, and manured with several other substances. These experiments were referred to by him in a paper presented at a late meeting of the British Association. Tables were presented showing the amounts of the different mineral constituents taken off in the crop from the respective plots. The variations in the composition of the ash of both grain and straw, dependent on variations of season, and consequent character of development and maturity, had been first pointed out—the general result being that, with an unfavorable season, there was a slight, though appreciable decrease in the percentage of lime and potash, and increase in that of magnesia; and again, an increase in the percentage of phosphoric acid and of silica, and, especially in the case of the straw ash, a decrease in that of sulphuric acid.

The published summary of the paper referred to, goes on to state that when ammoniacal salts were used alone, year after year, on the same land, the composition of the ash of both grain and straw showed an appreciable decline in the amount of phosphoric acid, and that of the straw a considerable reduction in the percentage of silica; the amount of mineral constituents in the crop of a given area of land was very much increased; much more so than when a liberal supply of mineral constituents alone was used. But in neither of these cases was there anything like the amount of mineral constituents obtained in the crop that there was when the ammoniacal salts and mineral manures were used together, or when farm-yard manure was employed. The deficiency alluded to in silica and in phosphoric acid, and a deficiency also apparent, but not so great, in potash and magnesia, were not surprising, however, when it is considered that in these experiments, in which both corn and straw were annually removed, without the usual periodical return of farm-yard manure, there had been annually taken from the land, by the use of ammoniacal salts, about five times as much potash, about twice as much phosphoric acid, and about twenty-five times as much silica as would be removed under a system of ordinary rotation with home manuring and selling only corn and meat; "in fact, in sixteen years there had been taken from the land as much potash as would require eighty-two years, as much phosphoric acid as would require thirty-two years, and as much silica as would require four hundered years of such ordinary practice to remove."

Notwithstanding this extraordinary consumption of these mineral materials,—a consumption which had been considerably exceeded for fifteen years past on the farm of Mr. Smith of Lois Weedon, the crops on the latter farm are not yet failing; and it was calculated that upon a soil of one foot in depth, "with the ordinary rotation, *with home manuring*, and the selling of only corn and meat," it would require "about 1000 years to exhaust as much phosphoric acid, about 2000 years to exhaust as much potash, and about 6000 years to exhaust as much silica, as, according to the average results of forty-two analyses relating to fourteen soils of very various descriptions, had been found to be soluble in dilute hydrochloric acid. Many soils had, doubtless, a composition inferior to that here supposed. In a large proportion, however, the amounts of the above constituents, assumed to be soluble in dilute hydrochloric acid, would probably be available for plants long before the expiration of the periods mentioned, whilst in a large proportion, there would still be further stores eventually available within a greater or a less depth from the surface."

"But the exhaustion of mineral constituents by the sale of corn and meat alone was, in reality, not so great in the ordinary practice of this country, as has been assumed for the purpose of the above illustrations. Where there was no purchase of cattle food, or of artificial or town manures, the sales of corn and meat would, on the average, be much less than were taken in Dr. Gilbert's and Mr. Lawes' estimates; and where such materials were purchased with any degree of judgment in the selection, there would always be much more phosphoric acid (otherwise the most easily exhausted constituent,) so brought upon the land, than would be obtained from it in the increase of produce yielded; in fact, under such conditions, in many soils, potash was more likely to become deficient. Again, by no means the whole of the mineral consttiuents sent from the farm in the form of corn and meat, will reach the sewers of our towns, and thence our rivers; a not inconsiderable portion finding its way back to the land in some form. In addition to which, imported corn, meat, and other materials, will contribute something to the restoration of our own cultivated land. It is at the same time certain that so much of the refuse matters of our towns as becomes diluted with water in the degrees recognized under the present sewage system, will be applicable as manure on the large scale, only to succulent crops, and especially to grass land; and so far as this is the case, they will of course, not directly contribute to the restoration to the land under tillage of the mineral constituents sent from it in its produce of corn and meat. When other descriptions of produce than corn and meat, such as roots, hay or straw, are largely sold, compensation is generally made by the return to the land of stable or town manures of some kind. If this be not done, the loss of mineral constituents may, indeed, be very considerable."

These facts were presented (and enlarged upon more fully than our present limits will permit us to go,) mainly with the view of controverting LIEBIG'S recent position—which implies, if we understand it correctly, that what is known as *good farming* at the present day, is totally inadequate to prevent the exhaustion of our soils. We have always claimed, and the very careful arguments of Mr. LAWES and Dr. GILBERT go to show, most conclusively, that with the careful *economy of farm manures*, the proper *deepening of the soil*, the well arranged *rotation of the crops*, the farmer will be enabled to sell both grain and meat without risking at all the impoverishment of his land. If these sales of grain and meat *pass beyond a certain limit*—and then only—the purchase of *artificial fertilizers* becomes necessary. The inference drawn by Dr. Gilbert and Mr. Lawes as regards the English farmer, was, that while the importance of applying to agricultural purposes as much as possible of the valuable manuring matters of our towns must be insisted on, at the same time they believed that modern practice does not tend to exhaustion in anything like the degree that Liebig and others have supposed. And so for the American farmer, we may lay it down as a general rule, that he must first exhaust his means of economizing and manufacturing the manures of the farm and barns and household, before he need think of buying fertilizers to any very great extent; and we may add our belief, not only that "the exhaustion of soils" will then become to him an altogether inexplicable phrase, but also that the *improvement of soils* will be a process which he can watch with annually increasing gratification and profit.

STUMP MACHINE.

A correspondent in the Nov. No. of THE CULTIVATOR, inquires for a good stump machine. We have one now in operation, which acts satisfactorily. I will enclose the maker's advertisement. A. F.

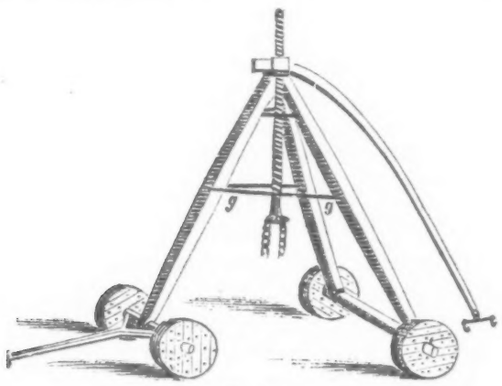


Fig. 1.

This stump machine is manufactured by John Thomas of Hamilton, C. W., and costs from $30 to $150, according to size—we should question if any but the largest would be strong enough for all cases. It is not *new*, as supposed—we have seen one similar nearly twenty years ago; the accompanying, which we copy from the COUNTRY GENTLEMAN, Vol. X, p. 139, is essentially the same. The figure nearly explains itself, the chain at the lower end of the screw being attached to the stump as shown in Fig. 2. Every part must be strong—the number of the COUNTRY GENTLEMAN referred to gives the dimensions of all the parts.

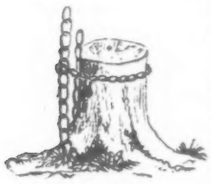


Fig. 2.

THE OSIER FOR BANDS.

Every farmer should have a small plantation of the osier for making bands for binding cornstalks, threshed straw, &c. Rye straw has been extensively used for this purpose, where it is raised and can be procured—but our opinion is that a square rod of the best osier (*Salix purpurea*,) is worth nearly an acre of rye. It is also more easily managed, for what a man would carry of the osier in his arms, would bind as much straw or stalks as half a wagon load of rye straw. A great deal of time, as every farmer knows, is wasted in trying to pitch with a fork, cornstalks which have been broken from badly bound bundles. Willow bands, properly put on, would save all this trouble. During the past very wet autumn, we were compelled to draw into the barn much of the corn crop before husking. It was very easily accomplished by first binding each shock firmly together with osiers, making large bundles, easily handled.

When some ingenious inventor shall construct a machine for binding wheat after the reaping machine, by using the shoots of the willow for bands, binding machines may become common.

The Salix purpurea may be obtained of many nurserymen, in the form of cuttings, and each cutting a foot long, and two or three years old, or even younger, will soon make a tree, if set in rich mellow ground, upland or otherwise, provided the soil is well cultivated before setting out and for a few years afterwards.

Too much company is worse than none.

LOSS FROM WEEDS.

Very few of our farmers seem to be aware of the great loss they sustain annually, from the growth of weeds of one kind or another, with which quite too many of our farms are overrun. The late Sir JOHN SINCLAIR made some experiments on this subject, the results of which we annex, and which are worthy the consideration of all cultivators who have failed themselves to discover to how great an extent their crops are lessened by weeds:

"1. Seven acres of light gravelly land were fallowed, and sown broadcast; one acre was measured off, and not a weed was pulled out of it; the other six were carefully weeded. The unweeded acre produced eighteen bushels; the six weeded acres 135 bushels, or 22½ per acre, which is 4½ bushels, or one-fourth more produce in favor of weeding. 2. A six-acre field was sown with barley, in fine tilth and well manured. The weeding, owing to a great abundance of charlock, cost 12s. per acre. The produce of an unweeded acre was only 13 bushels; of the weeded, 28. Difference in favor of the weeding, 15 bushels per acre, besides the land being so much cleaner for succeeding crops. 3. Six acres sown with oats; one acre plowed but once, and unmanured, produced only 17 bushels. Another six acres, plowed three times, manured, and weeded, produced 37 bushels. This experiment proves that oats require good management, and will pay for it as well as other crops. Ten bushels of the increased produce may be fairly attributed to the weeding, and the other ten to the manure."

[For the Country Gentleman and Cultivator.]

Large Corn Crop in New-Jersey.

MESSRS. EDITORS—Mr. David Padgett of this county, has just had a remarkable yield of corn, and if it has ever been surpassed in this part of the country I should like to hear of it.

He planted three acres of corn upon a clover sward. The ground had been recently marled—top-dressed with good manure in the fall—measured the ground carefully, and from an acre obtained one hundred and seven bushels and one peck of shelled corn.

From the other two acres one hundred and eighty bushels, or ninety bushels per acre.

Mr. P. is one of our most intelligent and industrious farmers, and this statement, as I received it from himself, may be relied upon. Who will now say corn cannot be raised in South Jersey?

We have had one hundred and four bushels of corn raised in this neighborhood before, but this last surpasses anything of the kind ever known here.

Deerfield, N. J., Nov., 1861. S. G. CATTELL.

[For the Country Gentleman and Cultivator.]

Experiment with Potatoes.

EDS. CO. GENT.—I herewith send you a statement of my success in cultivating ten sorts of potatoes the present season. They were planted on an inverted clover sod, 3 by 3 feet, and hand hoed once. About a teaspoonful of plaster was dropped into each hill when they were planted. Soil, a heavy clay, very wet the latter part of the season. The first eight sorts are seedlings originated by Rev. C. E. Goodrich of Utica, N. Y.

Names.	Amount Planted.	Yield.
Amazon	½ bushel	10 bushels
Cuzco	1 bushel and 4 quarts	55 do.
Callao	½ bushel	14 do.
Central City	¾ bushel	12½ do.
New Kidney	20 quarts	8 do.
Connermire	28 quarts	26 do.
Pinkeye Rustycoat	1 bushel	40 do.
Garnet Chili	½ bushel	20¼ do.
Prince Albert	3 bushels	75 do.

Clinton 5 bushels—not worth digging on account of the rot.

All the old varieties cultivated in this section have rotted badly. P. SUTTON.

Luzerne Co., Pa., Nov. 11, 1861.

GAS LIME AND ASHES.

The quite frequent inquiries received as to the use of GAS LIME, renders any trial of it in some degree interesting, although the benefit of its application apparently depends very greatly upon circumstances of soil and location, which it is not easy to calculate upon without actual experiment.

Judge STRONG recently mentioned to the writer an instance of its successful employment upon his farm in Suffolk Co., on the northern shore of Long Island. The Gas Lime was purchased in a considerable quantity at a cost of five cents per bushel; as it lay in the heap and was scattered from it by the wind, the grass around seemed to derive no benefit whatever from the sprinkling, although the casual scatterings from an ash heap under similar circumstances always show a marked effect. Hence little good was expected. This was several years ago. The Lime was spread at the rate of a hundred bushels per acre on seeding down with wheat, timothy being sown in fall and clover in the spring. The wheat crop harvest showed no apparent result from the Gas Lime, but the first crop of grass was a remarkably good one, and for five successive seasons two tons of hay per acre were cut in the field, when, without the effect exerted by the Lime, a ton and a-half or thereabouts would have been anticipated as the average of *three years* when the land would have to be broken up, thus giving only three average crops instead of five good ones. So much for the action of the Gas Lime upon the Grass. The soil, it should be added, is a strong loam.

The field was an orchard, which was thus seeded down in part because the trees had never really seemed to be doing very well. That part of the field dressed with the Gas Lime, had been about fourteen years in apple trees; they at once began to grow more vigorously, presenting a striking contrast to their neighbors where the Gas Lime was not applied, and the third or fourth year after the dressing yielded for the first time a good crop of fruit. This present season is the third year that they have been in good bearing; and, owing partially to a careful pruning of branches which had become too thick and numerous, the crop of 1861 was superior to either of the two which preceded it. This year's apple crop alone would perhaps have covered the whole outlay originally involved. So much for Gas Lime, in the present case, as an application for apple trees.

A successful trial on Grass Land had also been made with *coal ashes*, which were sprinkled under the trees on the lawn in Spring. The ground had previously been very thinly covered or almost bare; but the coal ashes, which were spread on at the rate of about a bushel per square rod, brought in a thick and thrifty growth of clover, and the cut of grass was much heavier than where no ashes had been put. Judge STRONG was of the opinion that the effect would have been still more beneficial if the ashes had been put on in Autumn instead of Spring.

Wood ashes are largely used as a fertilizer on the farms of Long Island; and, as an illustration of their lasting effect, it was mentioned that it had been common in seeding down a field to apply yard manure as far as it would go, leaving perhaps one-half to receive ashes in its stead. The field lies three years in grass, and is then broken up for corn, manured in the hill; but Judge STRONG thought that the corn crop produced upon the part of the field where ashes had been put on was invariably more thrifty to the eye from its first start, and yielded perhaps one-third more heavily than the part of the field to which barn-yard manure only had been applied. It has lately been found the better practice to apply the ashes and manure "half-and-half" upon the same surface in place of the foregoing practice. The application of the leached ashes was at the rate of about a hundred bushels per acre, and of the manure twenty-five loads of say 30 bushels per load.

Long Island farmers (at least in this vicinity) always make Indian corn the first crop after breaking up—the average production of a good farm being perhaps sixty bushels of ears per acre, with a hundred as an occasional good yield. The second crop is oats, of which 40 bushels is considered a fair return, generally without manure; after which a more or less liberal application of ashes, yard manure, &c., takes place, and the land is seeded down with a crop of winter grain, to remain three years in meadow. This part of the Island probably produces scarcely as much wheat as its inhabitants consume, and the Indian corn is mostly fed out upon the farms. Hay is an important crop for sale, and considerable quantities of fertilizers are annually purchased, as will be seen from the above outline, by all who take much pains or pride in their pursuit.

Thrashing Machines---Clover-Hullers.

I wish to get a two-horse power thrashing machine and clover huller, and being unacquainted with the numerous kinds, would like some of your correspondents to inform me by letter, which is best, most durable, and easiest for horses—and especially adapted to cleaning grass seed. I raised this year 125 bushels of timothy seed, and I estimate lost 15 to 20 bushels for want of a suitable machine to remove straw and chaff. What are the advantages of an overshot thresher? Can one be procured in Chicago, as good and cheap as in New-York? What is the price—also price of a wood-sawing machine? How much wheat will such a thrashing machine thrash in a day, and how many hands will be needed. A. F. *West Liberty, Iowa.*

Probably Wilbur, Emery & Co. of Chicago could furnish all these machines, of good construction, and at reasonable rates. The price of a good clover-huller is about one hundred dollars. The price of a good two-horse endless chain power, with all parts complete, is about $120; a thrashing machine and cleaner about as much more; or a thrasher and simple separator of straw, about $40 or $50. Such a machine, driven by two horses requires about four hands in all, and will thrash some 100 or 150 bushels of wheat in a day—but varying with the size and weight of the horses, facilities for pitching, number of hours run, and the good order the machine may be kept in. The overshot thresher delivers the straw and grain at a more convenient height for the cleaner or separator. A wood-sawing machine varies in price with the size of the saw, but a good one may be had for 35 or 40 dollars.

Will some of our correspondents who have had careful experience furnish the other information asked for—although it may be asking too much for any one to decide which is the best machine, until he has tried them all. Our correspondent can hardly expect them to write private letters and pay postage, to give him the desired information, unless they may be interested readers, whose statements he might think were not impartial.

SORGHUM MOLASSES.—In these times of embargo and non-intercourse with our southern brothers, it is found very convenient for each farmer to get 25 or 50 gallons Sorghum Molasses from a very small patch of ground, by hauling his cane to a mill near by, and getting it made on shares. The first year the cane was introduced among us, I bantered a neighbor to go in with me for a small bag of the new and untried seed. We were neither of us willing to venture $1, but we went 50 cents each, and I raised 23 gallons of most excellent molasses from a trifling amount of ground, and that too with a clumsy contrivance of a wooden mill which wasted about one-third of the juice. I know of a man who has two acres of cane this fall, and when I last saw him he expected to lose all, on account of the mill that he had depended on having been sold and moved away. Why cannot some cheap and simple mill be invented, so that every farmer could make his own molasses? I think if I was a worker in iron, I could contrive such a one myself. R.

Switzerland Co., Ind., Nov. 13.

[For the Country Gentleman and Cultivator.]

REFRESHING THE MEMORY.

MESSRS. EDITORS—I once knew a man, whose wife was rather feeble, and when the good woman's health was inquired after, his common reply was, that "she *enjoyed* rather poor health." Now, I am of the opinion that many "enjoy the same blessing," in regard to their memories. Their retentive powers seem to be defective; so much so, that it would be difficult for them to give an intelligible account of what they had read, an hour after the reading. Whether this arises from some defect in their "making up," or from inattention, I shall not pretend to say—perhaps it arises in part, from both causes.

But these afflicted ones should not be overlooked. I therefore propose to repeat a few of the *many* things worth remembering, that have appeared from time to time in the COUNTRY GENTLEMAN, for their benefit—hoping that "line upon line," will have the desired effect.

1. Remember to treat all animals that are dependent upon you for their comfort, during these cold months, with humanity. See that they are warmly housed, and have a full supply of nutritious food. Feed roots and meal. See that they do not lose flesh the fore part of winter. Increase the good things to milch cows, towards spring just before calving time. Don't begin and end with straw and corn buts.

2. Remember to keep your stock clean from filth by carding, and by giving them a clean bed of straw to lie upon. Don't attempt to promote thrift and growth, by applying manure to their hides. It is far better to make the application to the soil, and thus increase the yield of hay, roots and grain. These, fed to them with a liberal hand—though a more roundabout way—will be far more efficacious.

3. Remember to clean out the cattles' mangers once a day. Less fodder will be wasted, and they will relish their food much better. Give them *enough*, but only so much as they will eat up clean at each foddering, if the fodder is good. Cattle will reject their food, after having breathed over it awhile. And further, clean up the scatterings made by foddering, that nothing be lost. Some men have got rich by *saving*.

4. Remember that pure water—not a mud-puddle—and a plenty of it, is essential to the health and thrift of all animals. Don't require your cattle to go a mile through the snow, with the thermometer at or below zero, and then, upon their knees, drink from some dirty slough, through a hole cut in the ice and mud.

5. Remember to keep the manure snugly piled, and mix a plenty of absorbents with it—straw, saw-dust, muck or turf are good—to hold the liquid. If your manure heap has not the same defect that your memory has—leaky—you need give yourself no anxiety about cellars or sheds to stow it in, as with a good supply of straw or other material to take up the liquid, the rain or snow that falls upon it will do it no damage, but will forward its fitness for the land.

6. Remember to house all farm tools. Those not in daily use should be thoroughly cleaned before putting away. If any are out of repair, put them in order. Don't winter the plow in the corner of the fence, the horse-rake in the middle of the meadow, or the mower in the door-yard. This will be worse for their constitution than a summer's work. All tools in daily use, should be cleaned after using—shovels and dung-forks should not be allowed to become coated with frozen and dried manure. They are much more comfortable to use, when kept clean, besides they will last much longer.

7. Remember to draw up to the door, saw, split and pile up under cover, a year's stock of wood, during the winter. It is bad economy to burn green wood; besides it is a violation of the connubial vow, to require "my dear" to cook the dinner with green soggy wood. Any woman so treated ought to apply for a bill of divorce, and if the court should refuse the petition, she ought then to secede—peaceably, if she can—but secede at any rate.

8. Remember to do everything well that you undertake. Adopt the rule, that anything that is worth doing, is worth doing well.

9. Remember to be neat and systematic about all your work—particularly in doing the chores. Chores are quite an item in the winter, and they can be done much more expeditiously, where there is system in doing them, than when done at haphazard.

10. Remember to take the COUNTRY GENTLEMAN. Many think this the best agricultural paper published for practical farmers, and as I like to be in the crowd I am inclined to the same opinion, although I read one or two others. It is passing strange that so many should entertain the opinion, that nothing can be learned in regard to farming. Every farmer should take some good, practical journal, that he may avail himself of the experience and practice of others. There are humbugs enough in the course of the year, in most papers, to pay the expense; and valuable information enough to pay for three or four papers—the humbugs may be forgotten.

11. Remember that a great war is upon us, and that half a million or more of the brave defenders of the Union must be fed and clothed. Therefore, it becomes the duty, as it is to the interest of every tiller of the soil, to put forth renewed exertions—to add a few more acres to the growing crops—to till the soil with greater diligence and care, and thus increase its productiveness, that the wants of our soldiers, and the expense of this unrighteous war, waged by traitors and thieves against our government, may be met. And that we may have bread enough, and some to spare, to our amiable cousins across the water. J. L. R. *Jefferson Co., N. Y.*

[For the Country Gentleman and Cultivator.]

CORN FODDER FOR DAIRY FARMERS.

MESSRS. EDITORS—Could one-half of my brother farmers, who ridicule book-farming, be induced to plant next spring, one half acre, each, to fodder corn, who have a dairy of ten cows, the rows two feet apart, with 20 or 25 kernels to a foot, and begin to feed about the first of September, and add six weeks or two months to their dairy season, they would be inclined to look pleasant at their success, and let the name alone. My experience will warrant $25 for the half acre, if properly managed, with very little labor.

I want to add that I have stabled five cows nights through the summer, filling the drop behind them with turf, procured mostly by plowing moss knolls, taking off the turf, making them even, and with the help of one horse and a few white Chester pigs, have made 100 full cart-loads of good compost for my meadows, putting it on in October, and have turf enough in my yard and hog-pens for another hundred in the spring. I will gladly listen to a better course on a small farm.

West-Winsted, Conn., Dec. 3, 1861. JUDSON WADSWORTH.

[For the Country Gentleman and Cultivator.]

LARGE CROP OF ONIONS.

MESSRS. EDITORS—Having in times gone by given you some information as to the culture of *the onion* in this vicinity, I am now happy to inform you that Mr. G. W. Curtis of Marblehead, has the present season raised more than *nine hundred bushels* of onions, of a superior quality, on a single acre of land. I did not see the crop myself, but have the certificate of J. J. H. Gregory, Esq., an entirely reliable witness, as to the *growth* and *measure*. Considering the many embarrassments in the culture of the onion for several years past, this crop of Mr. Curtis is highly encouraging. Many other crops from *three* to *five hundred bushels* to the acre, have been secured in this vicinity the present season. The *drouth* that prevailed for several weeks in the summer was more detrimental to the progress of the maggot than the growth of the plant.

South Danvers, Mass., Nov. 16, 1861. JOHN W. PROCTOR.

[For the Country Gentleman and Cultivator.]

STONE BOATS ON WHEELS.

In many localities, where there are many rocks and stones to be hauled on stone boats which slide on the ground, two, and sometimes three teams are employed to haul what one team would do with ease, were the load placed on wheels. A stone which will weigh ten or twelve hundred pounds, will make a good load for a team, and it is very fatiguing for them to haul even that amount any considerable distance. But, if a stone is on wheels, a team will often haul with ease a load more than twice as heavy as their combined weight.

On one of the shores of Long Island Sound, I saw workmen hauling stone and boulders a distance of about one hundred and fifty rods for building a pier; and I observed that a man with one span of horses, would haul nearly twice as heavy a load on his wheel stoneboat, as another man did with two yoke of oxen on a common stone boat.

To make a good stone boat on wheels, procure two good plank about twelve feet long, and from two and a half to three inches in thickness, and about eighteen inches wide. Now bolt a piece of a timber about eight inches wide, on the under side of an axletree supported by two wheels, and then bolt one end of these two plank on the *under* side of the timber, letting the bolts pass through plank, timber and axletree. The other end of the plank should be fastened together similar to a common stone boat, by bolting a narrow piece of plank across the ends with carriage bolts. This will be the forward end, and the other end will be beneath the hindmost axletree. A knuckle hinge bolt is fastened to the forward end of the stone boat, rigidly, and a part of it is put through the forward axletree and secured with a key on the top.

When loading very heavy boulders, the forward end of the boat may be lowered clear on the ground and after the stone has been rolled on, the end is then pried up with a lever and secured to the axle tree.

The forward end of the stone boat should be narrower than at the middle and hind end, in order to give room for the fore wheels in turning round. If the road is not very uneven, the boat may be bolted so low beneath the axletrees as to be within six or eight inches of the ground.

A man of very little mechanical skill could make such an apparatus during some stormy day, by using the wheels of a cart for a part of it, or all the wheels of a lumber wagon, on axletrees with or without skeins on the axle arms.

Such a stone boat would be far more convenient and easier for a team, when hauling stone for ditches, than a stone boat that slides on the ground.

No hounds will be needed on the hindmost nor forward axletree. The tongue can be attached to the forward axletree as they often are to light wagons—with hooks and eyes.

S. Edwards Todd.

[For the Country Gentleman and Cultivator.]

Grain-Producing Capacity of the United States.

Messrs. Tucker & Son—In your paper of Nov. 21st, you quote the remarks of a New-York correspondent of the London Mark-Lane Express to this effect: That "this is likely to be the last year that England may expect any shipments of breadstuffs to a large amount" from the United States. The reader is left to infer that it will be in consequence of our being unable to produce any considerable amount beyond our own wants. This writer, (whoever he may be,) it is quite evident, as we say here in the west, "has not travelled." For either he is sadly duped himself, or else he is trying to dupe his readers, when he tells them that the United States has reached its full capacity as a grain producing country. No man of common intelligence who is at all acquainted, or who has travelled but a *little* even in the northwestern States, will tell you that the resources of any of these States has began to be developed. I will venture the assertion, without the fear of contradiction, that west and south of the lakes, with the single exception of Ohio, no single State has more than one-tenth of her arable land now under cultivation. Look for instance at Illinois, which is comparatively an old State. I have not the late United States census returns now before me, but I have no doubt it would bear me out in saying that less than a tenth of *her* fertile soil has yet been broken by the plowshare. And if with her limited acres under cultivation she has such millions of surplus grains to spare, estimate, if you can, what she may not do in the way of stopping the mouths of England's pauper poor when all her sections and quarter-sections are brought under the plow, and when the resources and capacity of Illinois and Iowa, and the whole northwest, are fully developed, who can then estimate or tell us where to find a market for the grain, the beef and the pork which we cannot use?

The best cultivated parts of New-England do not produce more than one-fourth what the soil is capable of doing under a proper and improved state of cultivation.

Now when the whole northwest, any acre of which is naturally as good as two in New-England, comes to the same cultivation that New-England now has, we can feed "all the world, and the rest of mankind." Talk about estimating the capacity of a country whose navigable rivers are four thousand miles long, with soil as fertile as ever the sun shone upon, and a population whose chief end it is to keep what they get and get all they can—as well might you count the drops in the ocean as to measure the capacity of such a country.

Could I get the ear or the eye of the readers of the London Mark-Lane Express, I would tell them, as I would tell all who love liberty and desire a peaceful and happy home of their own, to come to this beautiful and fertile country of ours, where there is room enough and to spare—come and make farms on these magnificent and unequalled prairies, where the productions of an acre are only to be measured by the amount of labor judiciously bestowed upon it.

Then you shall see and know whether this New-York writer, who doubtless gets well paid for trying to belittle and belie our country, has told you truth, or falsehood as glaring as noon-day.

Butler County, Iowa, Dec. 5, 1861. J. C. A.

WINTER PROTECTION OF BEES.

This important part of the bee-keeper's duty should be well discussed, and carefully attended to. While many succeed well in wintering bees, others suffer partial and sometimes sad failures.

My neighbor was a successful bee-keeper. He wintered his bees by burying them after the following method:—He dug a place in a dry piece of ground, without regard to protection, about six inches deep, and long enough to place all his hives side by side; then laid a floor with boards, battening the cracks, then laid rye straw lengthwise, threshed with a flail, so that when pressed down by the weight of the hives it would not be less than four inches in depth. He then set a course or layer of the straw of equal thickness as at the bottom on each side of the row of hives, and at the ends, lapping the straw over the top, and then covered the whole with earth, in as perpendicular a position as possible, and retain a covering over the whole surface of the straw, being careful to have all the straw covered, so that mice would not be induced to enter. He then left them thus covered till the season was so far advanced in the spring that the bees could get a living. His success was complete. Less than one-half the honey was consumed than by hives left out doors. Neither mice nor mole ever troubled his bees. Such was the uniform result of many year's practice. I suggested to him to cover the mound under which his bees rested with a roofing to keep off the rains, to which he replied, "Not till I find the present method a failure," which did not occur. D. C. S., *in Prairie Farmer*

☞ We learn that Mason C. Weld, late editor and publisher of the Hartford (Ct.) "Homestead" (now discontinued) has just become an associate editor of the "American Agriculturist."

NEW PUBLICATIONS.

REPORT OF THE COMMISSIONER OF PATENTS for the Year 1860. AGRICULTURE.

We acknowledge our indebtedness for copies of the last Agricultural Report from the Patent Office, to Hon. J. H. REYNOLDS of this city.

Hon. THOMAS G. CLEMSEN, who signs himself "*Superintendent of Agricultural Affairs of the United States*," opens the volume with Preliminary Remarks, containing some useful suggestions, enlarging upon the importance of the Agricultural Division of the Patent Office, and urging increased appropriations by the Government for its benefit, and for the encouragement of Agriculture. After a brief statement of the operations at the experimental garden connected with the Agricultural Division at Washington, we next have the continuance of Mr. CLEMSEN'S article on "Fertilizers" from the previous Report—an article which will be mainly useful for practical purposes, as it strikes us, from the fact of its rendering easily accessible the various analytical tables showing the composition of different Agricultural Products, which are copied from Morton's excellent Cyclopœdia of Agriculture.

Over sixty pages follow, under the head of "Notes on the Recent Progress of Agricultural Science. By D. A. WELLS, Troy, N. Y." The idea is a good one, to present such a compilation of extracts from the publications of the year, as shall fairly illustrate the progress of either or both the science or practice of Agriculture. In no other way, as we believe, could a better view be presented of what is really going on, "both as regards facts and opinions." But the compiler should not only bring to the task much discrimination and good judgment, with some experience—he should also have at his command the best of our current Agricultural literature, both domestic and foreign. We fear that Mr. Wells' resources were not quite so full as may have been desirable. Some of his selections are very good and appropriate; but as a whole his compilation does not quite attain the character which we think it should possess, as a digest either of the experience that has been put in print, the experiments that have been reported, or the scientific advancement that may have occurred, while not the slightest reference is given to any of the prominent "agricultural events" of of the year in review, or indeed of any other year or period. The paper, however, constitutes a feature in the volume that we should like to have continued in future Reports, if the rich materials which a well-qualified and judicious compiler might employ, could really be put to good and systematic use.

The "Observations on English Husbandry, by Hon. HENRY F. FRENCH, Exeter, N. H.," which next follow, we have read with some attention. The article is a comprehensive one, and at the same time clear and straight-forward. The twenty-six pages, which it occupies, are always interesting, and the views and conclusions expressed, manifest the close personal observation of their author, as well as a careful consultation of standard writers upon this fruitful topic.

The succeeding sixty pages are taken up with an account of "Irrigation, by E. GOODRICH SMITH, Washington, D. C." as practiced in ancient and modern times in different parts of the world. This is a subject to which, in many parts of the United States, more attention should undoubtedly be given, and the information here presented cannot be otherwise than useful to any one proposing to undertake it. But we fail to notice any account of the experiments that have already been conducted in this country, in obtaining cheap and practicable systems of irrigation; and the reader is apparently left to apply for himself the information he obtains.

"Grasses for the South, by Rev. C. W. HOWARD, associate editor of the Southern Cultivator, Kingston, Georgia," is the title of a paper occupying fifteen pages, which our Southern friends may some time have the opportunity, we hope, of consulting to the great benefit of their agriculture. Drs. EMERSON and ELWYN, of Philadelphia, next present a report upon Pleuro-pneumonia, which Dr. J. B. CRAIG of Washington follows in the farther consideration of the same subject. The remainder of the volume is occupied with papers on Bee Culture, by WM. BUCKISCH, Hortontown, Texas; Notes on recent discoveries and improvements in Pisciculture, translated from the German of Dr. FRAAS; Insects Injurious to Vegetation, by P. R. UHLER of Baltimore; several articles on Wine Making and Grape Culture, filling nearly one hundred pages; the Forests and Trees of Northern America, by Dr. J. G. COOPER, occupying thirty pages; and articles upon Tea and Chinese Agriculture, concluding the whole.

Taking the volume altogether, if it fails in some respects to meet the requirements we should like to see filled by a work, of which *several hundred thousand copies* are distributed gratuitously by our government, it is nevertheless such as to compare favorably with its predecessors. That it contains, as heretofore, far more of *second-hand* information, if we may so style it, than of original research or personal experience, is probably owing to a lack which undoubtedly still exists in this country, of the means of obtaining the latter. This lack, however, is now daily diminishing, and the successive volumes issued by the Patent Office, ought by good rights to afford still greater evidences of the diminution than they do.

MANUAL OF AGRICULTURE, for the School, the Farm and the Fireside.

This work, a brief announcement of which has already been given in our columns, prepared by Messrs. GEO. B. EMERSON and CHARLES L. FLINT, and published by Swan, Brewer & Tileston of Boston, is one which bears close examination, and deserves great credit for the system, plainness, and general accuracy which characterize both its design and execution. The father of a family, who desires to make his children acquainted with the principles, and interested in the pursuit of Farming, can scarcely do better than devote the long evenings of the Winter to a careful review of this book with them; and he would not be likely to conclude it without having himself profited by the time thus expended. As a school book we should also warmly recommend its general adoption.

The price of this book is 75 cents, containing 294 pages and nearly 100 engravings. Copies may now be had at this Office, or will be sent by mail post-paid, at the price mentioned.

THE ANNUAL REGISTER.—I intend to get up a club for your CULTIVATOR, as soon as I get time, and the above subscription for the Co. GENT. will be counted in. One article I find in the REGISTER for 1862, (that on Grape Pruning,) to me is worth the price of the book (25 cents.)

Monroeville, O. S. A.

PEACH GROWING IN MICHIGAN.—A correspondent of the COUNTRY GENTLEMAN at St. Josephs, says that almost every landholder in that vicinity is engaged in raising fruit for the market, and that more than 30,000 baskets of peaches were sent to market this season.

[For the Country Gentleman and Cultivator.]

A New-Hampshire Farm and Farmer.

Messrs. Editors—During the past week, in company with Joseph B. Walker, Esq., of Concord, I took an excursion to Lower Gilmanton, about fifteen miles from Concord, for the purpose of making a call upon G. W. Sanborn, Esq., and taking a ramble over his extensive farm. While there I took notes of some things that interested me somewhat, and thinking they might also interest some of your numerous readers, I herewith furnish a sketch of the farm, buildings, irrigation, crops, &c.

The Home Farm

Contains about 775 acres, fenced with stone wall into large fields. Every field, including pasture and woodland, has been accurately surveyed and mapped. The map of large size, gives the form of every field and lot, with the number of acres and rods each contain.

The exact location of the farm buildings is put down, and one or two large brooks, with all their windings and curves as they course through these extensive grounds; as also the bearings and sweeps of between five and six miles of open ditches for conveying water from a fifty acre pond for irrigating a large portion of his upland mowing fields.

The map is handsomely executed, lettered and colored. Tillage fields being of one color; the pastures of another; so of the irrigated portions of the farm and the woodlots. Such maps are of great utility to the cultivators of large farms, especially where they are fenced into numerous fields of unequal size and form, as is so frequently the case in most portions of New England.

The original farm contained about 300 acres, lying upon a large swell of land of excellent quality, being mostly of a deep yellow loam soil, and very free from large rocks. Since the farm came into Mr. Sanborn's possession he has purchased two or three adjoining farms, of similar soil with the homestead, and they are equally favorably situated for irrigation from the same pond.

The Farm Buildings

Consist of a large first rate house, with suitable out-buildings, and two barns, one of which is 100 by 42 feet with 18 feet posts. The other 150 by 40 feet, with cellar or basement under each. The mow or bay (of 15 feet in width,) of the 150 feet barn goes to the bottom of the cellar some 8 or 9 feet below the barn floor. The whole length of the cellar next the bay, is fitted up with suitable racks, feeding boxes, &c., for his young cattle, which are kept in the basement during the winter months. There are also two large barns in his mowing lots for the convenience of storing hay, many tons of which he annually sells. In one of his barns he has a "platform balance" for weighing hay, cattle, &c. By occasionally weighing loads of hay as carted in from the fields, he is enabled to form a pretty accurate estimate of the quantity of hay cut upon the farm. By referring to his farm journal, he estimated his hay crop of the past season at 250 tons; most of which was cut with a mowing machine.

Farm Stock.

For several years past the cattle wintered average about 100; 4 horses and several colts on one of the out farms, 25 head of cattle, and 40 sheep. His cattle are mostly of the so called "native breed."

Some few miles from his residence he has a large range of "mountain pasturage," in which he pastures for others, many of which are driven up from near the seaboard. This year he pastured for hire 260 head of cattle, 35 colts, and 260 sheep. To avoid any dispute about the price of pasturage of particular ages and sizes of cattle, horses, &c., he has printed cards of prices. The following is a copy of "Prices for Pasturage for 1861:"

CATTLE.

One year old, each,	$1.50
Two do. do.	2.25
Three do. do.	3.00
Six feet Oxen or Steers per pair,	7.00
Six and one-half feet Oxen per pair,	8.00
Seven feet Oxen per pair,	9.00
Cows, each,	3.50

The sizes reckoned as they come from pasture.

COLTS.

One year old,	$3.00
Two do.	5.00
Three do.	6.00
Four do.	8.00

He has about 2,000 acres of out lands, much of them being of a mountainous character, but affording excellent pasturage. As wood and timber in that vicinity are of little value, he is having many acres annually cleared and brought into pasture.

Cultivated Crops.

This year had 13 acres in corn—oats, barley and potatoes to match. He had on hand about 1,500 bushels of corn, oats and barley, nearly all of which will be fed to his farm stock the coming winter. Having a grist mill on the premises, most of his grain for stock is ground. Beside the grist-mill, he has a saw-mill, clapboard and shingle mill, and planing machine, lathe machine, and two powerful threshers, all propelled by water-power, having 16 feet "head and fall" of water. That being a good farming section, a large amount of grain is raised, which is generally shooked in the fields, and when dry enough it is drawn directly from the fields to the machines. For threshing some farmers pay cash, others pay *toll*.

Through the summer season he employs an average of ten men, many of them having families, and occupying small houses upon the farm, of which he has several. None of his laborers board in his family.

Irrigating Meadows.

But the most interesting feature connected with Mr. Sanborn's farming, is his extensive and systematic course of irrigation—an agricultural improvement scarcely adopted by one in a thousand of our New-Hampshire farmers. As already said, Mr. S. has between five and six miles of main drains for carrying the water from a large pond over his grass lands. In locating his ditches, in the first place, he obtains the level from the pond the whole length of his intended ditches, several of which are over a mile in length. Then with a strong team and a large plow, he turns two, three, or four furrows, according to the size of the intended ditch. The furrows are thrown out on the lower side, raising an embankment so that the water in the largest ditches is two or three feet deep, and three or more feet wide. Every few rods small outlets are made in the embankments, to let off the water in such quantities as are needed. There are, also, numerous small ditches, cut out with the shovel or spade in form of the letter V; over these the mowing machine passes without obstruction. The grass on the banks of the large ditches is cut with the scythe. Recently he has much extended his ditches, and he will soon have 300 acres of mowing land irrigated, nearly the whole of which slopes sufficiently to keep the water in motion. Near the base of some of the slopes and in some of the hollows, probably the grasses would be better in quality if the lands were underdrained.

It is about twelve years since Mr. Sanborn commenced his system of irrigating his "old mowing fields," many of them previously yielding very scanty crops of grass, not over 10 or 15 cwt. of hay per acre; these same acres now, with the application of water alone, producing two tons of dried hay per acre, of first-rate quality for cattle, those fields having been the longest irrigated giving the largest quantity. Mr. S. says he has no doubt that the water that is now running to waste, and that might profitably be used upon the grass lands in the town of Gilmanton, would, if properly applied, add at least fifty per cent. annually to the hay crop of that town, and this too without the addition of farm-yard manure. Beside this, it renders the farmer who judiciously irrigates his grass lands, independent of rains in the months of May and June. A scarcity of rain in those two months, as was the case over

large portions of New-England in 1860, causes a great deficiency in the hay crop. Pasture lands are benefitted by irrigation as well as mowing fields. Irrigated pasture land is a thing I have never yet seen. It is to be hoped that the praiseworthy and successful example of Mr. Sanborn in the formation of "water meadows," will not be lost upon his brother farmers in this farming section of the country. As far as I am able to learn, he is the only farmer in New-Hampshire that has gone very extensively into this matter of irrigating his grass lands.

In the Transactions of New-York Ag. Society, 1858, I find quite a detailed account of L. D. Clift's farm, and of his extensive system of irrigation, which then had been in operation some eight or nine years. Mr. Clift's farm is in the town of Carmel, Putnam Co., N. Y. The Report of the Committee who visited the farm in 1858, was written by the Junior Editor of the Co. GENT.—occupying five pages of the Transactions. Those farmers having a copy of the Transactions for 1858, will do well to give it a careful perusal, as well also Mr. C.'s account of his farm, the next article following the Committee's Report.

Last June J. Stanton Gould, Esq., visited Mr. Clift's farm, for the special purpose of witnessing the effects of irrigation upon the mowing fields of that farm. His report is published in the Co. GENT. of Aug. 22, 1861. Those having the Co. GENT. of above date, will, perhaps, do well to give it a careful perusal during some of the long evenings of this season of the year. I here make a short extract from Mr. Gould's report. He says:—"In the course of my journey from my own residence to Mr. Clift's, I estimated roughly the land susceptible of benefit by irrigation, which passed under my eye, at 20,000 acres; assuming, as before, that the increase was only one ton to the acre, and its value to be $10 per ton, we should receive from our now wasted waters a revenue of $200,000 annually. I fully believe that without resorting to any extensive or costly engineering operations, or any erections more complicated than any good farmer is capable of executing with his ordinary help, it will be possible to increase the annual value of the grass lands of the State of New-York one million of dollars, by the judicious use of the streams flowing through them."

There are tens of thousands of acres of land in New-Hampshire that might be cheaply irrigated, and be made to produce annually from one and a half to two tons of the best quality of stock hay, that now are scarcely worth mowing. This was the case with field after field on Mr. Sanborn's farm. And what he has done, other farmers can do, if they will take hold of the matter in the right way, and persevere as he has done.

It is doubtless true, that "it requires considerable skill and practice, and many failures have followed experiments of this kind, made without due care and attention." The farmer that undertakes to irrigate his fields, should fully understand the different effect between flowing and stagnant water—"for while flowing water coaxes up the finest indigenous grasses of the climate, and renders them sweet, and wholesome, and nutritious, and luxuriant, stagnant water starves, deteriorates or kills all the good grasses."

From Mr. Clift's experience, and that of some others, *winter irrigation* is quite as necessary as that of summer, with this difference—the water may flow over the land without interruption from November till April.

Warner, N. H., Nov. 22, 1861. LEVI BARTLETT.

SUCCESSFUL FARMER'S CLUB.—Extract from a letter dated Lebanon, Conn., Nov. 11. "We have had a Farmer's Club in this town for a few years past that has met at the dwelling houses of those that attended it, during the winter season, and we became so much interested in our meetings that within the past year we have organized a club with a constitution and by-laws, a copy of which I shall mail to your address for perusal. We have purchased some books for a library, and are about making up clubs for agricultural papers. Just now I happen to be destitute of an agricultural paper, which I *cannot afford to be very long.* Our club now numbers forty members. W. C. N.

[For the Country Gentleman and Cultivator.]

The Country Gentleman and Cultivator.

[We publish the following letter from an old subscriber with the greater pleasure, as we have to acknowledge our indebtedness to him, not only for his own subscription since the establishment of THE CULTIVATOR—a period of now nearly Thirty Years—but also for efforts annually renewed to maintain and extend its circulation among his neighbors. Few of our Club-Agents began earlier, or have yearly met with more constant and gratifying success in this respect. EDS.]

I take some pains to secure the reading of THE CULTIVATOR by my neighbors, as the best means of promoting the interest of agriculture among us, and not from any expectation of a premium. It is from a high estimate of the value of the paper to every farmer who reads it.

The doctrines of the paper are *sound*—free alike from false interpretations of science, and from obstinate fogyism—progressive, but eminently experimental.

The paper has a large number of able contributors, who give us the conclusions of their large views, their careful study, and their long experience. The young farmer is incited to a love for his calling, and to a desire to excel in it by the inspiring influence of those noble men who show such zeal in their profession.

The literary character of the paper is elevated. The writers do not think it necessary to come down and address farmers in a low and inelegant style, and I am happy to say that we need not fear that the literary taste of our sons will be degraded by reading the COUNTRY GENTLEMAN and CULTIVATOR. I am proud to say that in honest dignity it stands beside our best quarterlies.

It is a good deal to say of an agricultural paper that it has sustained its character, and even improved for so many years. The last volume of THE CULTIVATOR is fully equal in value and interest to any one of its predecessors. I presume the conductors understand what has been required for this, better than their readers. How many scientific and literary journals fail or decline after a few years. But agriculture is progressive, and the field is wide, so that it has been possible, as we see, to present something fresh and instructive, and interesting, every month for a generation.

I do not need, I presume, to offer an apology for what I have written. It is not improper that the editors should know how their labors in conducting their journal are appreciated by their readers, and I suppose I represent a large number of them.

I take it for granted that your paper comest into competition with others of a different character, some of which, though superficial, are rather taking with a class of readers.

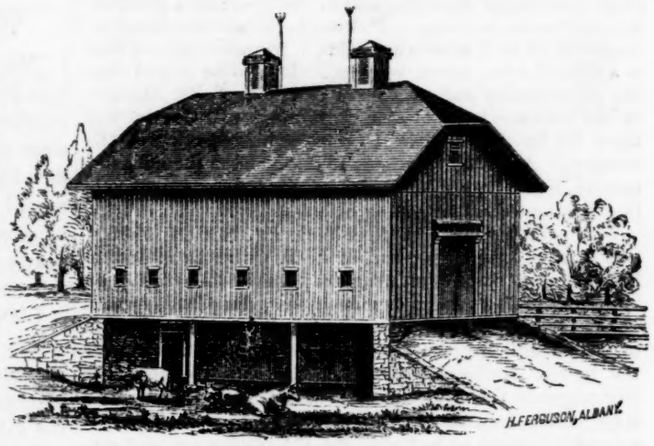
Those articles in THE CULTIVATOR of this year which interested me particularly were those on English agriculture by L. H. T., and the Farming in Chester county. The contributions of the same kind by Mr. THOMAS, and by Mr. TODD, are also valuable. I think much also of Mr. BARTLETT'S papers, &c., &c.

I might add that if long acquaintance gives any right to speak for THE CULTIVATOR, I have that, for I have been a reader of every number. I remember with what pleasure I hailed the announcement of Judge BUEL, that he was about to send forth such a paper, just as I was about to take into my own hands the conduct of a farm. So that THE CULTIVATOR is identified with the whole of my farming. NEWTON REED. *Duchess Co., Nov.* 30.

SPONTANEOUS COMBUSTION.—I was greatly surprised at a statement in the American Agriculturist a few months since, from the editor, that he did not believe in the spontaneous combustion of hay stacks, showing how rare is the occurrence in America, but it frequently takes place in England, a moister climate, and where the stacks are large. Spontaneous combustion in the human body is very rare, yet it does occasionally take place in excessive hard drinkers of alcoholic liquids. A. FRANCIS, M. D.

Rural Architecture.

Barn for Seventy-five to a Hundred Acres.



This barn stands on a slight declivity, and is so constructed that a wagon may be driven through it, obviating the necessity of backing out. Its size is forty-two by sixty feet. (Its capacity may be increased to any extent by greater length.) The main floor is lighted by a long horizontal window over each double door; the trap-door for straw turns down, and buttons up under the girth; if desired two more may be placed outside the ventilators. A smooth planed shoot below allows the straw to slide freely in the root and straw cellar below, and a cart load of roots is dumped down this shoot. Roots will keep finely if a foot of straw is first thrown down, then several feet of roots, then a few additional feet of straw or chaff to protect them from freezing.

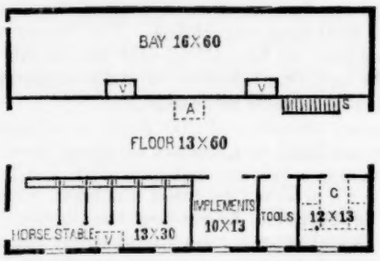


Fig. 2.—Principal Floor.—A. Trap Door and shoot for straw and chaff.—G. Granary.—V. V. Ventilators and hay shoots.—S. Stairs to basement.

There are two ventilators at the side of the bay, through which hay is thrown down into the feeding passage below; the mode of constructing these shafts is already described. A third is placed over the passage in the horse stable, for the purpose of ventilation only. They are made to unite at the ridge of the barn by extending them up next to the roof, as shown by a section in fig. 3. This bay contains 960 square feet, and will hold about forty tons of hay, or two tons for every foot of rise, when the hay is well settled; and if one of the ventilator shafts is marked in feet outside, the owner may see at any time nearly how much he has on hand. A fixed ladder for ascending it may be placed near A.

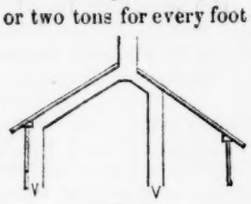


Fig. 3.

The Horse Stable is 13 by 30 feet, and contains five single stalls, each four and a half feet wide, and one double stall seven feet wide, for a team to feed when in harness, and readily accessible through the wide stable door. One or two small trap doors allow the attendant to cast the cleanings through to the manure shed below; and a cast-iron drainage plate, slightly concave, set with holes, allows all the liquid to fall on the manure heap, which, if necessary, should have an amount of absorbents, such as straw, sawdust or coal ashes, sufficient to prevent waste. This stable is well lighted with three small glass windows.

Next adjoining this stable is a room, 10 by 13, for holding all coarse tools or implements connected with the farm; and next to this is a smaller room for the smaller tools, which need not occupy but one side, while the other may have a work bench and vice.

The Granary is 12 by 13 feet, and contains five bins, which will hold over 600 bushels. The rear and larger bin may contain mixed grain for cattle and horse feed, and be discharged through a tube into a wagon below. The smaller ones may have the bottoms raised eight inches above the floor, with an opening and slide in front of each, and a recess beneath, so that a half bushel may be placed under the opening and filled in a moment, with little labor. The granary being on the corner of the barn, with the barn floor on one side and the tool room on the other, is less liable to be entered by rats, than if surrounded by concealed passages.

All the space over the granary, tool rooms and horse stables, may be filled with unthrashed grain, besides the poles or platforms extending across the ends of the space over the floor.

A slate and pencil should always hang in the granary, to keep reckonings, register orders, &c.

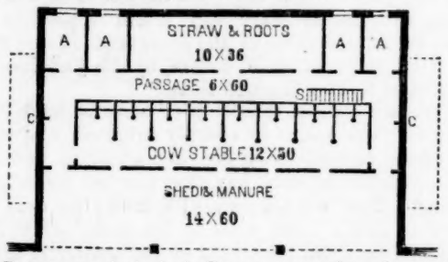


Fig. 4. Basement.—A. A. A. A. Boxes or pens for calves and cows with calf, 6 by 10 feet each.—C. C. Cisterns under the wagon-way or abutments, from which water for cattle may be drawn through a cock.

The plan of the basement nearly explains itself. The mode of filling the root room has been already described. There are a number of sliding board windows in the rear of the cow stalls, for throwing out manure, and over a part of them glass windows for admitting light. It will be observed how accessible the roots, straw and hay are in front; and that the manure in the rear is easily drawn off by a cart, without the necessity of resorting to the wheelbarrow, except it be in cleaning the cow and calf pens.

There are over 3,000 square feet of surface on the roof, and about 2,000 barrels of water fall annually upon it, in the form of rain, affording five or six barrels daily for watering cattle, if watered by it all the year round. The cisterns should, therefore, hold not less than 500 barrels. (This size will not be needed, if there are other supples of water—or if the herd is not large enough to consume so much.) If these are each twenty-five feet long and six feet wide, they will hold this amount. They should be well built, of masonry and water-lime, and arched over the top like a stone culvert, so that there will be no danger of the embankment falling in. A good well in the middle of the passage, with a pump, would obviate the necessity of these cisterns.

The cost of this barn, built with rough boards, would be about $800 or $900; planed and painted, $1,100 to $1,200.

WARD CASES

Those who have attempted to cultivate green-house plants in rooms, have met with two serious drawbacks. One is the liability to become coated with dust, and the other is the dryness of the air, which is greatly increased by stove heat. For these reasons there are but few plants that will endure for a long time in common living rooms. To obviate these difficulties, the Ward Case has been constructed. It consists essentially in covering the plants with glass. This protects them from dust, and by confining the moisture which is constantly exhaled by the leaves, gives them a humid atmosphere. It also assists materially in equallizing the temperature, and shielding from the effects of the sudden changes which may occur in the room. For these reasons, the care of the plants in these cases, is much diminished.

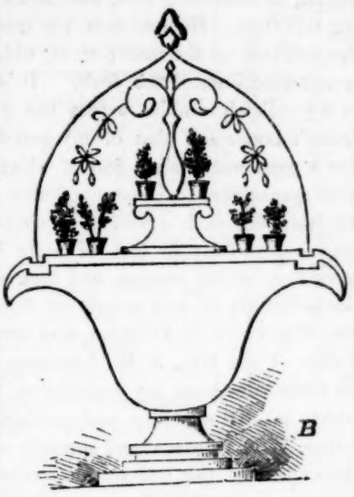


Fig. I.

Fig. 2.

Fig. 3.

Fig. 1 represents the section of a small and simple case—made by covering a cast iron vase of plants with a large bell glass. Fig. 2 is a cast-iron basket of plants, without the glass cover. Fig. 3 is the common Ward Case attached to a table made about three feet long and two feet wide. The glass is nearly two feet high besides the pyramidal cap.

A simpler and cheaper form of construction is shown in Fig. 4, which is made of wood and covered with window sash. If well constructed and neatly kept, it will have a very ornamental appearance. When kept in a room subject to occasional cold below freezing, the proper temperature may be maintained by the following contrivance. Let the pots stand on an iron or copper tray, (the pots being supported, if heavy, by iron bars,) beneath which is soldered a convex round piece of sheet copper, so as to form a flat boiler beneath the tray. A tube through the tray above admits filling the boiler and allows the escape of the steam; a small tube and cock below allows the water to be drawn off. A lamp placed under the boiler heats the water, and keeps the plants sufficiently warm.

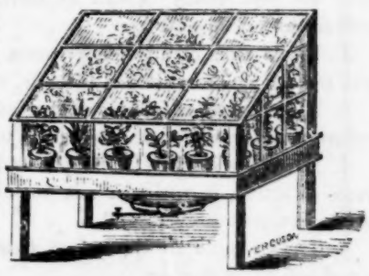


Fig. 4.

ROME BEAUTY APPLE.

This Ohio variety, as many of our readers know, is remarkable for its fair and handsome appearance, while it has but moderate flavor. It has already become famous for market in many places. W. W. Rathbone, of Marietta, states in the Ohio Farmer, that its fault, if there be one, is "its constant overbearing"—that it "bears itself to death"—that trees often produce fruit the third year from grafting on yearling seedlings;—and that now, "after bearing monstrous crops almost annually, men are unreasonable enough to complain that the fruit is not so large as formerly, and that the trees do not grow so thriftily, without having a particle of extra feed." He says that Maj. Putnam merely plowed his Rome Beauty orchard, and that they have uniformly presented an exceedingly thrifty appearance. No tree, he asserts, makes so thrifty, handsome upright growth. As a consequence of their great productiveness, the main limbs become covered with pendant twigs, with protuberances at their extremities. A portion of these should be cut away in order to thin the crop. This variety sold last year in the New Orleans market for $5.50 per barrel, when Roxbury Rsusets would bring but $3.00.

[For the Country Gentleman and Cultivator.]

To Keep Rabbits from Trees in Winter.

Two years ago I found the rabbits gnawing my choice trees severely. I had seen several remedies recommended, such as tying on strips of lath, bark, wrapping with straw, &c. But I thought some kind of a *wash* would be much cheaper, and less work to put it on. I took a small quantity of *tobacco* and made a strong tea of it; then a thick *lime white wash*, and stirred in the tobacco. With a brush or swab, a man can wash 1,000 in a day. It proved a remedy with me. My rabbits, although uncivilized, are too nice to chew tobacco. If storms wash off the mixture, wash them again. It does not cost much. Answer to J. T. Cook of Md. S. Fotser.

A Productive Apple.—Among all autumn varieties, there is probably nothing equal in productiveness to the *Hawthornden*. It is a fair fruit, and on account of its fine culinary qualities, is one of the most profitable trees for planting on limited grounds, for family supplies.

RULES FOR TREE PLANTERS.

The following rules are so self-evident to men of experience, that they seem almost like axioms; and yet they are continually broken by novices in setting out orchard and fruit gardens:

1. If the roots of a tree are frozen out of the ground, and thawed again in contact with air, the tree is killed.

2. If the frozen roots are well buried, filling all cavities before thawing any at all, the tree is uninjured.

3. Manure should never be placed in contact with the roots of a tree, in setting it out, but old finely pulverized earthy compost answers well.

4. Trees should always be set about as deep as they stood before digging up.

5. A small or moderate sized tree at the time of transplanting will usually be a large bearing tree, sooner than a larger tree set out at the same time, and which is checked necessarily in growth by removal.

6. Constant, clean, and mellow cultivation is absolutely necessary at all times for the successful growth of the peach tree, at any age; it is as necessary for a young plum tree, but not quite so much so for an old one; it is nearly as essential for a young apple tree, but much less so for and old orchard; and still less necessary for a middle aged cherry tree.

7. To guard against mice in winter with perfect success, make a small, compact, smooth earth mound nearly a foot high, around the stem of each young orchard tree.

8. Warm valleys, with a rich soil, are more liable to cause destruction to trees or their crops by cold, than moderate hills of more exposure, and with less fertile soil—the cold air settling at the bottom of valleys during the sharpest frosts, and the rich soil making the trees grow too late in autumn, without ripening and hardening their wood.

9. The roots of a tree extend nearly as far on each side as the height of the tree; and hence to dig it up by cutting a circle with the spade half a foot in diameter, cuts off more than nine-tenths of the roots; and to spade a little circle about a young tree not one quarter as far as the roots extend, and call it "cultivation," is like Falstaff's men claiming spurs and shirt collar for a complete suit.

10. Watering a tree in dry weather affords but temporary relief, and often does more harm than good by crusting the surface. Keeping the surface constantly mellow is much more valuable and important—or if this cannot be done, mulch well. If watering is ever done from necessity, remove the top earth, pour in the water, and then replace the earth—then mulch, or keep the surface very mellow.

11. Shrivelled trees may be made plump before planting, by covering tops and all with earth for several days.

12. Watering trees before they expand their leaves, should not be done by pouring water at the roots, but by keeping the *bark* of the stem and branches frequently or constantly moist. Trees in leaf and in rapid growth, may be watered at the roots, if done properly.

13. Young trees may be manured to great advantage by spreading manure over the roots as far as they extend, or over a circle whose radius is equal to the height of the tree, in autumn or early winter, and spading this manure in, in spring.

14. Never set young trees in a grass field, or among wheat, or other sowed grain. Clover is still worse, as the roots go deep, and rob the tree roots. The whole surface should be clean and mellow; or if any crops are suffered, they should be potatoes, carrots, turnips, or other low hoed crops.

[For the Country Gentleman and Cultivator.]

Spanish Chestnut---French Chestnut---Castanea vesca.

Eds. Co. Gent.—I noticed in your last paper an article from Mr. Wynkoop of Catskill, under this heading, intimating as something new, that he had succeeded in growing this fruit. He also says his tree is "a graft from a Spanish tree on the native stock, which he thinks has in a measure acclimated the fruit." It is now 60 years since, in my childish rambles across the grounds between my father's house and that of my grandfather, I used to follow a path within sixty feet of which stood two lofty and wide spread Spanish chestnuts, rising to the height of over 40 feet, and each covering a circle with their lowest branches of fully 30 feet or more in diameter. These were then in full bearing, and long remained so, until in the formation of new streets my father had them felled. Franklin street, in Flushing, now covers their site. The Father of the Hon. J. W. Lawrence of this place, obtained some trees from my grandfather, Wm. Prince, one of which is still standing, and produces great crops. My father, Wm. Prince, urged specially upon our countrymen the culture of this tree on an extensive scale, either by planting the seedling trees, or by grafting it on our other native species, which can be done as readily as grafting an apple. During his life, and up to this time, there have never been less than 500 to 1,500 of this tree on hand in our nurseries, and they have been widely, but very sparsely disseminated. They have many varieties in France, and in the third edition of the London Horticultural Society's Catalogue, published in 1842, there are 20 varieties enumerated. These distinct varieties can only be perpetuated by grafting, and of the Devonshire there named I received some grafts from the Secretary of that Society about 20 years ago, and we have been of late years eating the fruit from the only grafted tree of this kind that ever grew in America. Being an English variety it is more hardy than either the Spanish or French.

When it is considered that these trees are so superabundant in their crops of fruit that the vast quantities grown in middle and southern France and in Spain constitute a large proportion of the food of the poorer classes during a portion of the year, and that it is the cheapest of all diet in these countries, it will be perceived how important is the general culture of so estimable a fruit among us, and how wrongly its culture has been neglected.

The Madeira Nut.

While discussing this subject I recall to mind another most important tree, whose general culture has been even more neglected—Juglans regia, usually called Madeira nut, or English walnut, neither of the two latter names being at all applicable, as the tree is a native of Persia, the native land of the Peach, Nectarine, Apricot, and of the Vitis vinifera, the parent of all the foreign grapes. It is now just 54 years since I accompanied my father to the residence of Mr. Halleck, at Great Neck, on this Island, a most staid Quaker gentleman, the grandfather of Major-General Halleck, who has just been appointed Commander-in-Chief of the northwestern army, who, however, hails from Oneida county, his present homestead. Near his house stood a Madeira nut tree, from which he then received an annual revenue of $40, the green nuts selling at $1 per hundred for pickles. My father had also a lofty and very ancient tree, much older than himself, from which he sold the green nuts at the same price, and Judge E. W. Lawrence has now a tree in his garden here, the crop of green fruit from which sells annually for $35 to $45.

Flushing, Nov. 30, 1861. WM. R. PRINCE.

HORSE-CULTURE OF GARDENS.

MESSRS. EDITORS—By giving an article in THE CULTIVATOR, upon kitchen garden culture by horse-power, suitable for the farmer or market gardener, you would oblige your humble servant and other subscribers. A. F.

The garden should have an unoccupied strip of land at each end, ten or twelve feet wide, for the horse to turn upon. The rows of vegetables should extend in drills across the garden, so that the horse may pass from one end to the other without interruption. Potatoes, beets, parsnips, carrots, peas, asparagus, cabbage, tomatoes, strawberries, raspberries, and all the larger plants or vegetables which require some space, may be thus planted in drills and cultivated by horse-power with common plows or cultivators, if the drills are two to four feet apart, according to the size and nature of the plant. The smaller may be in double drills. With an implement like Garrett's horse-hoe, (figured and described on p. 145 of Thomas' Farm Implements,) which dresses out with great accuracy several rows not over a foot asunder, at one passing, nearly all the smaller vegetables might be thus treated without difficulty. Probably one of Alden's thill cultivators, which may be guided with accuracy, might be fitted so as to dress at least three drills at once, by leaving vacancies between the teeth for the rows. Where one horse is used, it is necessary to dress either one, three, five or more rows, in order that the horse may walk in the middle.

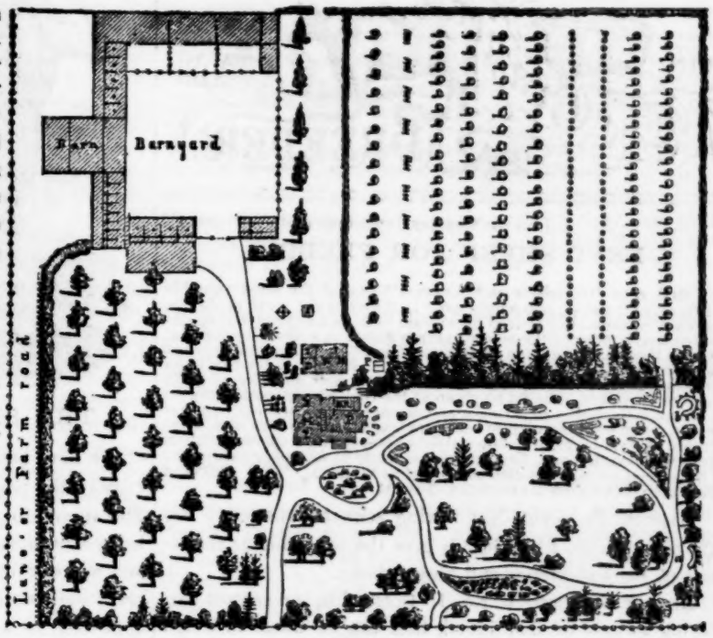


Fig. 1.

The accompanying figure, (fig. 1) represents a country place with the house nearly at the center, a pear orchard on the left, ornamental grounds on the right, and back of the latter a garden laid out with an express view to horse culture, the rows which extend across being currants, gooseberries, dwarf apples and dwarf pears. The latter may be omitted, or if planted should be either a rod or more apart, so as to allow vegetables to grow between, or else eight or ten feet apart with no vegetables.

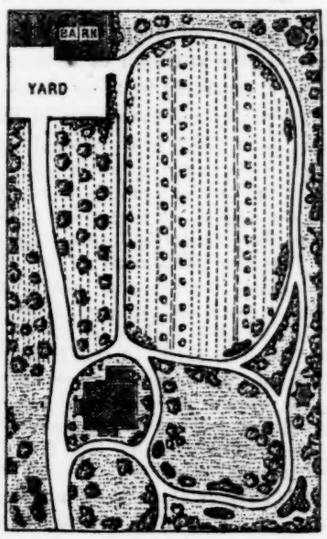


Fig. 2.

On a smaller scale, or for a village garden, the same end may be attained with a more finished and picturesque arrangement as shown in the second plan, a sufficient space being left at each end unplanted, so that with the walk added, the horse may turn about without treading on the vegetables.

For field culture, intended for extensive marketing, the same course is to be pursued in every respect, but the importance in this case of cultivators that shall take several rows at once is very obvious.

If you do good, forget it; if evil, remember & repent of it.

[For the Country Gentleman and Cultivator.]

THE NORTHERN SPY.

This apple was planted quite extensively in Wisconsin a few years ago. Its habit as a tardy bearer not being understood by planters, after waiting, as they thought, a suitable length of time for a show of fruit, began to denounce it as unsuited to the climate. It was not strange that doubts were felt concerning this, when so many of the old popular eastern sorts had disappointed western culturists. Many trees, however, are now fruiting, bearing moderately at six to eight, and profusely at eleven years from planting. We should give the Northern Spy a place a place even in quite a small list of sorts for general cultivation in the northwest.

The trees of the Northern Spy in my orchard this fall, before I left Wisconsin, were perfectly beautiful, and were greatly admired. I have several barrels of the fruit in my cellar here as fresh and hard as when gathered. The tree is quite hardy, and makes a fine growth in our western soil.

Here in Ohio it is planted a good deal. In the northern part of the State it does finely. About Columbus, and further south, it scarcely can be reckoned among the long keepers, ripening, as it does, in early winter.

Columbus, Ohio, Nov. 20, 1861. A. G. HANFORD.

[For the Country Gentleman and Cultivator.]

THE OLIVE TREE---Olea Europea.

In your last number I notice some comments, descriptive of this tree. It is so hardy that it will withstand the winters of North Carolina, and there are some quite extensive plantations of it in the Southern States. The product, however, even in Italy, is not such as to render its culture very profitable, and there is more "olive oil," so called, obtained from one of the hog pens of the west than an extensive plantation would produce. By far the greater portion of the "olive oil" imported is made from lard exported from this country to France, the two voyages imparting to it a decided improvement. W. R. PRINCE.

☞ THE FRUIT-GROWER'S SOCIETY of Western New-York, will hold its next annual meeting at Rochester, on Wednesday, Jan. 8, 1862, at 11 A. M. By order of the Council. C. P. BISSELL, *Sec'y.*

[For the Country Gentleman and Cultivator.]

BEST SHEEP FOR FEEDING.

I find your "Inquiries and Answers" one of the most valuable parts of your paper, and would ask—1. Which is the most profitable breed of sheep to buy to feed for mutton?—2. Is a Leicester or South-Down worth more by the pound, LIVE WEIGHT, as a stock for feeding, than a Merino, all being in similar condition?—3. When, and in what manner, shall I commence feeding a flock of Merinos, intending them for sale in March or April?—4. What kinds and quantity of grain (and roots, if any,) should be given at the time of highest feeding?—5. What is the value of oil-cake as compared with corn—or in other words, when corn is worth 30 cents per bushel, as it is here now, what should be paid for cake? You published last spring a communication from S. Edwards Todd, Esq., giving his mode of fattening cattle, but I have seen no such detailed statement as to sheep. "G." Oakland Co., Mich.—COUNTRY GENTLEMAN, Nov. 14.

MESSRS. EDITORS—Not having seen an answer to the above inquiries, I will briefly give the following as the result of my experience and observation:

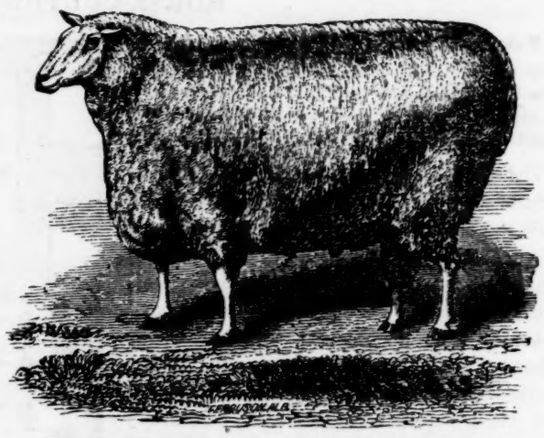
Answer to question No. 1. Cotswolds, or crosses partaking largely of that blood, that can be made to weigh readily from 180 to 200 pounds and upwards.—2. Leicester or South-Down preferred; Leicester the largest and best, standing next to the Cotswolds in my estimation for feeding.—3 and 4. Never had any experience in feeding Merinos; but to feed common sheep, or any of the long-wooled breeds that I intended for the March or April market, I should give plenty of good hay and all the roots they would eat, with very little corn, until 1st or middle of January, when I should increase the corn gradually till they had all they would eat up clean at every feeding, and continue it until marketed; which to be profitable, (and that is what feeders aim at,) should generally be in thirty or forty days after the highest point in feeding is arrived at. Good feeders take on flesh rapidly, and unlike cattle, reach nearly their greatest weight very quickly; after which you do not get well paid for your feed, except perchance in the rise of the market.

Turnips are the only kind of roots I feed. They can be raised much cheaper, and appear better adapted to sheep than any thing else. I raise chiefly the English Globe variety, being larger and more easily raised and gathered than any other variety—five men and two teams gathered 50 wagon loads for me in one day this season. They have very large tops as well as bottoms, and grow mostly out of the ground, and can be removed readily with a gentle push of the foot. The tops furnish valuable food for stock. The size of these turnips may appear large to New-Yorkers and New-Englanders; but my whole crop of this variety was estimated by many to weigh from three to five lbs., and many of them were on exhibition at the clerk's office for a long time, weighing 20 pounds and upwards each. Seed sown on sod ground without manure, broadcast, from 10th to 15th of July. So much for roots.

In answer to the last inquiry, I would say that I have fed more or less oil-meal every year for many seasons. It usually costs, delivered here, about $28 per ton. I feed very little, when corn is cheap; never to sheep for fattening purposes when it is below 35 cents, as at present, or to cattle when below 40. Sheep do their own grinding, hence no toll comes out of *their* corn.

Near Fort Wayne, Ind. I. D. G. NELSON.

CURE FOR HOG CHOLERA.—A correspondent of a Western paper states that the following has been used in Kentucky with success:—One part madder, one part sulphur, one-half part saltpetre, and one-half part black antimony, mixed, and give one tablespoonful twice a day. As a preventive, give one tablespoonful a day.



THE SHEEP OF LINCOLNSHIRE.

We have had engraved for this week's COUNTRY GENTLEMAN the portrait of an Improved Lincolnshire Sheep. The animal in question was bred by Mr. John Clarke of Long Sutton, an English agriculturist of much prominence, and was one of three to which the Royal Society's first prize was awarded. The engraving of the group, on steel, appeared in a recent volume of the London Farmer's Magazine; and the one of them, which we have selected as the subject of our illustration, stands in a position to show the characteristics of the sheep to pretty good advantage. There has been some inquiry for the breed of late years in this country, and where tried in Canada it has we believe succeeded very well.

[For the Country Gentleman and Cultivator.]

STEAMING FOOD FOR CATTLE.

The subject of steaming food for stock seems to be engrossing the attention of farmers in many parts of the country, especially in those places where hay commands a high price; and the results of those experiments which have been tried in a thorough and systematic manner, would seem to prove that in point of profit, it was preferable to the ordinary modes of keeping; more especially is this the case in keeping milch cows. During the past fall I had the pleasure of forming the acquaintance of Mr. H. H. PETERS of Southboro', Mass. This gentleman is largely engaged in producing milk for the Boston market, his herd of cattle consisting of about 60 thorough-bred Ayrshires, which is said to be the largest and finest herd of this breed of cattle in the United States. For two winters past, Mr. Peters has been experimenting in the different ways of keeping his stock through the winter, such as cutting, mixing and steaming the food for them. His apparatus for steaming food for stock is thus described in the Boston Cultivator:

"It consists of an upright boiler, such as is commonly used for working the ordinary elevating engines used on board ships and in stores. It is placed in one corner of the barn-cellar, and surrounded by fire-proof walls. The smoke-flue connects with a chimney on the outside, which is carried above the roofs of the nearest buildings. The fuel used is hard coal. There are two steam-vats, standing in two barns, which join at one corner, and form a right angle. The vats are on the floors where the cattle stand. Iron pipes carry the steam from the boiler to the vats. Besides these, gutta percha pipes are used to take the steam to the casks or tubs in which vegetables, oats, &c., are cooked. These pipes can also be put into the water, which is constantly running in and out reservoirs in the barns, and can be made to warm it to any degree that may be desired to make it agreeable or beneficial to the stock. The whole cost of the apparatus was $300. About 400 pounds of fodder is usually steamed in each vat at one time, and the vats are filled once a day, the

time of steaming being three hours. The two vats are filled with different substances. One, from which the working oxen and several steers, heifers and dry cows are fed, is filled with cornstalks—the corn having been cut at the ground and shocked soon after it was *glazed*—and wheat chaff, barley chaff or beards, or oat straw, in about equal proportions, the cornstalks and straw having been passed through a horse-power cutter. The fodder is dampened in the vat, and wheat shorts mixed with it at the rate of 2 quarts to each animal to be fed. The cows in milk are fed from the other vat, which is filled with good hay that has been run through a cutter, and the same quantity of shorts for a cow as mentioned for the other stock. When the vats are thus filled, the steam is let on. The steaming is done in the fore part of the day, and the cooked fodder is taken into large troughs which are placed on wheels, and are run along the floorway in front of the cows as they are fed. The fodder is left in the troughs several hours, to cool, but it retains sufficient heat, even the coldest weather, to make it warm enough to be eaten by cattle. The cattle which have been fed wholly on corn fodder, straw and chaff, with the quantity of shorts mentioned, are in good order, although the oxen have been worked all the time. All the fodder is eaten; we could not see that the amount of a handful of corn-stalks was left among the fifteen head fed in this way. The prepared food appears to be very palatable; it has an agreeable odor, resembling newly baked Yankee brown bread, and the stock eat it readily. The milch cows are also in good order as could be expected, considering the length of time they have been in milk and the large quantity they give.

"The average cost of the food for all the cattle—about fifty head, exclusive of the calves of last season—is fifteen cents per head a day."

It it is the opinion of Mr. Peters that there is considerable saving in rough fodder, such as corn-stalks, straw, chaff, &c., cooked in this way; at least cattle will eat much more of it, and do better in the meanwhile, than when fed in the ordinary way.

Mr. Peters estimates the cutting of the feed, cooking it, and serving it out to the cattle, to amount to about two cents a head per day, which, added to the cost of feed, would amount to seventeen cents a head per day for the fifty animals. From the consideration of the various experiments made and published on the subject of steaming food for cattle, it will be seen that the cost of keeping will depend in a measure on the cost of the apparatus used, the value of the materials used for feed, and the kind of cattle kept. The profits of this method of steaming over the ordinary way of feeding, must depend mainly on the cash value of the raw material fed.

Wilmington, Vt., Dec., 1861. C. T. ALVORD.

[For the Country Gentleman and Cultivator.]

Feeding Corn and Corn Cobs to Horses.

EDITORS OF THE COUNTRY GENT.—May I ask CURIOUS, who in No. 22 gives special permission, if it would not be better to let the horse eat the corn from the cob without "cutting it into pieces about an inch long?" In the west, we throw the ears of corn into the feed box, and the horse eats off the corn and leaves the cob. If, in the smaller ears of the east and north, the horse cannot as easily manage to shell it, why not shell it for him, instead of obliging him to consume the cob, which, when dry, has no nourishment, and for which he has no relish? If, as CURIOUS says, "the grain that goes through undigested, operates as a *mechanical irritant* to the stomach and intestines, and is liable to produce inflammation," how much more so will the hard, rough indigestible cob tend to produce this result? It is to this point I would call the attention of all having anything to do with the noble animal aforesaid, and enter my protest against forcing him to eat dry corn cobs under any circumstances whatever. If clear shelled corn is considered too heavy feed, it can be mixed with lighter substances, as bran, shorts, &c., which are neither wholly innutritious or obnoxious to his taste. There is no question that much injury has been done to the stomach and intestines of horses, and many lives destroyed, by forcing them to eat the cob. In conversation with one of the Shakers of North Union, O., I was informed that they had formerly fed their horses with corn ground with the cob, but had become satisfied that the cob was very injurious, and that the loss of several of their finest horses was attributed to the eating of it. This Society pride themselves in having good horses and stock, and are close observers of the effect of the food given them. The stomach of the ox or cow, say they, will bear being fed with ground corn with the cob, but that of the horse will not. R. FRY. *Cleveland, O.*

EXPERIMENT IN FEEDING HOGS.

If I pay 30 cents per bushel for corn to feed hogs, how much must I sell my hogs per pound to make it pay? How much corn will make one pound of pork, and how much time will it take to make it?

MR. EDITOR—My corn crop having been very materially shortened by the drouth last summer, and having some good Leicestershire hogs on hand, I determined to make an experiment which should enable me to answer the above questions. On the 5th of October I bought from Messrs. Phelps & Andrews, produce merchants of this town, 100 bushels of old corn, for which I paid $30. On the same day weighed 9 hogs on the scales at the railroad depot. They weighed 1,820 pounds, average 202 pounds each. The same hogs in three separate lots weighed as as follows, viz., 4 barrows 12½ months old,885 lbs., average, 221; 3 sows, same litter, 615 lbs., average 205; 2 pigs, 7½ months old, 320 lbs., average 160. Ao the corn was old and the hogs were young, I soaked the corn 48 hours in cold water; fed in troughs on a floor under cover; the hogs ran out in a small yard to the ground. I fed them nothing but the corn and cold water, except three quarts of wood ashes mixed with one quart of salt, each week. The 9 hogs ate the first 25 bushels in 15 days, the second 25 in 17 days, the third 25 in 15 days, and the fourth 25 in 16 days, the 100 bushels in 63 days. They were weighed again on the same scales; 2,950, average 328 pounds each; deduct 1,820 pounds, gained 1,130 pounds; average gain on each hog, 125 pounds—gain each day, 18 lbs., or 2 lbs. on each hog per day. Same weighed in separate lots as before. Four barrows 1,470; deduct 885 pounds, first weight—gain 585 pounds; gain on each hog in 63 days, 146 pounds, or 2.3 pounds to each hog per day. Three sows, 945 pounds; deduct 615 pounds, 340 pounds gain; gain on each hog, 113 pounds, or 1.8 pounds on each hog per day. Two pigs, 525 lbs., less 320 pounds, gain 205 pounds, on each hog 102 pounds, or 1.7 pounds on each hog per day.

From the above it will be seen that the barrows gained some ¾ of a pound per day more than the pigs, but as they were all fed from the same barrel, I cannot determine whether they ate in the same ratio or not. They ate 100 bushels in 63 days, say 90 pounds per day, 10 pounds per day to each hog, and gained 2 pounds per day each—which enables me to answer the second and third questions, that it takes five pounds of corn to make one pound of pork, and 12 hours to do it. Five pounds of corn at 30 cts. per bushel, will cost 2.7 cts., or about 2¾ cts. as the cost of the corn to make one pound of pork, and if I add one-fourth of a cent for the trouble of buying the corn and feeding it, and interest on purchase money, it will make three cents. Again I paid 30 dollars for 100 bushels of corn, and made 1130 pounds—1130 pounds at 3 cents, $33.90; which, after paying for the corn, would leave me but $3.90 for buying, feeding, interest, &c. Therefore, I conclude if I pay 30 cts. for corn, I must sell for 3 cts. or lose money by feeding. And further, from the above experiment, I am pretty well satisfied that the man who feeds hogs as they are usually fed in this country, in the open field, on the ground in the mud, exposed to the storms, without shelter, will not get rich very fast, unless he sells for very high prices. WISEMAN C. NICHOLS.

Morrow Co., O., Dec. 7, 1861.

The Poulterer's Companion.

BEST LAYING FOWLS CLASSIFIED.

The following question has been repeatedly put to us, personally as well as by letter: "What breed or variety of fowls would you recommend keeping for a supply of eggs?" In reply we would name

I. The *White-face Black Spanish* fowls as laying the greatest number of pounds of eggs. The Spanish hens are notorious for abundant layers of very large sized eggs, weighing from two and a half to three ounces each. They require warm housing and abundance of good clean water, &c.

II. The *Black Poland*, with a white top-knot. The Polish fowls are prolific of rather large-sized eggs, and are slow to sit, in fact, rare incubators. Hens of this variety have been known to lay from two hundred to two hundred and fifty eggs in a year. Chickens rather delicate and difficult to rear.

Golden Spangled Hambugh Fowls.

III. The *Hamburg Fowls*. All the Hamburg fowls are distinguished as great layers of middling-sized eggs, but rich in quality, and like all great laying fowls, poor incubators; indeed, mostly everlasting layers; they are great favorites of those who require an abundance of eggs, rather than frequent broods of chickens.

IV. The *Crested Hamburgs*, like the foregoing, are great layers of rich, good flavored, medium sized eggs. Non sitters—never knew one that wanted to sit.

V. The *Game Fowls*, are next in order as good layers of rather small-sized, delicious eggs, excellent mothers and rearers of chickens, good for the table. Hardy and great foragers. Are preferred by some to all other breeds.

VI. The *Bolton Greys* are esteemed prolific layers, of medium-sized eggs of good quality; poor sitters, indeed, mostly what are called "every-day" layers, but less invariably so than some others breeds.

VII. The *Dominique*. This well-known fowl, taken "all in all," is generally considered one of the very best we have, being pronounced good layers, good sitters, good mothers, and eggs and flesh of first quality.

VIII. The *Dorkings* are moderate layers of large and well-flavored eggs; sit steady, and are excellent mothers, rather delicate in constitution, chickens not easy to rear. They are to be ranked among the largest of fowls, and are esteemed the best in quality of flesh.

IX. *Brahmas and Cochins*. These fowls are more noted for early than abundant layers. Eggs of good quality, averaging about two ounces each—rather small in proportion to the size of the breed—good mothers, chickens strong, grow rapidly with good feeding, fit for the table at four months old, not after, until they arrive at maturity. As has often been said, they are *early* and *excellent* layers, and arrive at maturity earlier than any other large breed. By the term

Asiatic Fowls.

"maturity" is meant the age at which a pullett will commence laying, and thus perpetuate its race.

X. The *Guinea fowl* is prolific of eggs, small but very nutritious; shells hard, and on that account can be transported any distance with safety. The young Guinea fowl is delicate eating, the flesh little inferior to our partridge, and is in season when chickens and Prairie hens are scarce—in March.

Good Layers.—We conceive it a good hen that will lay 150 eggs the first year, 130 the second, and 100 the third; after which she should "go to pot."

To Make Hens Lay in Winter

There is another inquiry which we may as well answer at the present time—"How shall we manage with our hens in order to have them continue to lay in winter, the season when eggs are scarce and sell at the highest price?" The most practical mode that occurs to us would be to confine the earliest pullets after they are two or three months old, feed them well, and keep them until the first of October, when they should be allowed full liberty. A week or ten days afterwards they should be confined in a warm, dry room, where the vicissitudes of the weather and storms will not reach them. They may now be allowed a spacious enclosure, in company with the cocks from the former year's broods, and thus kept for several weeks more. They will soon begin to lay, and continue to do so—not every day, however,—until the spring following. The number of eggs to be expected in winter, compared with warm weather, will not amount to more than three-fourths, but the difference between 12 and 28 or 30 cents a dozen, will equalize and compensate for the receipts of those in summer.

The condition under which the laying hens can be protracted to the fullest natural extent, are systematic feeding with various kinds of grain, animal food, broken oyster-shells, old lime morter, gravel, and *plenty* of *clear* and *fresh water*; warmth in the end of the fall and winter; cleanliness in their house and roosting places.

We have known some persons so careful in this matter as to dig into banks facing the south or southeast, and form rooms for them there, with glazed doors and windows in front, to give sufficient light and heat from the sun, where they can have proper heat, and always a supply of earth, so essential for dusting themselves. In mild weather they may be let out and enjoy their liberty, but in cold and stormy weather the closer they are kept the better. Under such treatment we may safely look for a plentiful supply of eggs at all seasons. C. N. Bement. *New-York, November*, 1861.

☞ In most counties in England the dry summer and autumn have partially preserved the potato crop, although it would appear that in no county has there been an entire immunity from the blight.

Domestic Economy and Cookery.

OLD RAILS FOR KINDLING.

Those who know the inconvenience of trying to build kitchen fires on cold winter mornings, with wet, green, or large wood, and who have had the room filled with smoke while vainly endeavoring to make it burn, will appreciate the value of a good supply of kindling-wood for winter use. Farmers who fence their fields with the old fashioned crooked rail fence, always have a considerable amount of broken and refuse stuff, which have been seasoning for many years, and which if finely split makes good kindling wood. The farmer who has a hundred acres fenced in this way into ten-acre lots, has 800 rods of fence; and if the rails last on an average forty years, he has the spare and broken rails of 20 rods annually, which are equal to at least three cords of wood; or six cords if they last only 20 years. These are worth saving, instead of being allowed to lie and rot on the ground, as they are sometimes by thriftless farmers. If the rails are hard wood, they make valuable fuel; if of soft wood, as basswood, white cedar, pine, &c., they will kindle more readily. It is very important to keep them under shelter, that they may become and continue thoroughly dried. Now, at the close of the season, it should be attended to, if not already performed.

[For the Country Gentleman and Cultivator.]

To Hang up the Buggy Harness and Shafts Together.

Persons have often looked with amusement and surprise to see how quick I harness or unharness my horse, and then the harness and fills are hung up in the bargain.

In the first place, my harness is made with the collar open at the bottom, and no buckle, but the hames are fastened to the collar, and there is one buckle to fasten them both. The tugs and hold-back straps are not unhitched; the lines lie over the dash, where they will not get under the horses feet; they may be unbuckled from the headstall, or remain with it and hang all up together. I have a wooden hook, like an ox bow, with half the length of one side cut off, so as to hook under the back saddle, collar and headstall. A cord is attached to the long end of the hook and put up over a pulley, then through another pulley, and down about three feet to one side of the horse. Unbuckle the belly-bands and the hame-straps, put under the hook, pull all up, and make the cord fast to a small hook at the side of the carriage house. A horse will soon learn to place himself back into the breaching, when the harness and shafts are let down, three or four buckles are fastened, and he is harnessed.

This I learned from my friend B. of Oneida, N. Y. This is worth a wood engraving, but I have not time now to mark it out, so you can give us one. S. Foster.

[For the Country Gentleman and Cultivator.]

AMBER AND COPAL VARNISH.

On looking over the volume for last year I find inquiries for amber varnish. Excellent varnishes are imported into Canada from New-York, and sold in quarts and pints, besides the larger wholesale quantities. As these varnishes are made by using steam in their preparation, they can be more *safely* and conveniently made than by melting the materials over a common fire. Nevertheless some of your readers wish to know "how to make it," so I will give you the following:

Amber Varnish.—Melt 8 ounces Chio turpentine; pour in 1 pound of powdered amber by degrees, stirring it all the while; set it on the fire for half an hour; then add 2 ounces of white rosin; then stop the cover close, and increase the fire till the whole is melted. To this add 1 pound of *hot* drying oil, and then, by degrees, a quart of oil of turpentine. Amber can only be dissolved clear by melting it with some less glutinous gum. Same process for copal varnish.

You will perceive that it is rather a dangerous manufacture, on account of the inflammability of the substances used. The best way therefore is to make it out of doors, and have an iron cover ready to put over the pot it is made in, as that is the safest way to extinguish it if it takes fire. Rusticus.

[For the Country Gentleman and Cultivator.]

TO COOK CARROTS.

The common way of cooking them is in soups, or with what farmers call pot vituals; but my wife has a way of cooking them as follows: Scrape the outside; then slice about a quarter of an inch thick; put them in a spider, and add just water enough to cook them. After they are cooked, add salt and a little butter, and let them dry down a little, when they are ready for the table, and, by the way, are not bad to take in reasonable doses. I esteem the carrot one of the healthiest vegetables we raise in the garden. A. M.

HOW TO CURE HAMS AND SIDES.

There are many ways to cure hams, but some of them are not desirable, unless we are satisfied to eat poor hams in preference to good. A ham well cured, well smoked, and well cooked, is a favorite dish with most people, but there are very few indeed who can relish ham which has been hardened and spoiled by salt, or tainted for the want of salt in curing, and may be worse spoiled in cooking; but if ham is spoiled by too much salt, or too little, or becomes tainted before the salt has thoroughly penetrated through it, I defy any cook to make a good dish out of it. I have tried many ways in curing hams, and have lost them sometimes by having them become rancid and tainted in warm weather, and also by having them so salt and hard that they were unpalatable.

I have for some twenty years practiced the following simple recipe in curing pork hams and shoulders, and find it preferable to any recipe I ever tried, and when I have had any to sell they have taken the preference of sugar cured hams with those acquainted with them.

I trim the hams and shoulders in the usual way, except I cut the leg off close up to the ham and shoulder, to have them pack close, and as being worthless smoked; then sprinkle a little fine salt on the bottom of a sweet cask, and pack down the hams and shoulders promiscuously, as they will best pack in, and sprinkle a *little* fine salt on each laying, just enough to make it show white; then heat a kettle of water and put in salt, and stir well until it will bear up a good-sized potato, between the size of a quarter and a half dollar; boil and skim the brine, and pour it on the hams boiling hot, and cover them all over one or two inches deep with the brine, having put a stone on the meat to keep it down. I sometimes use saltpetre, and sometimes do not; consider it useless, except to color the meat. I now use my judgment as to the time to take them out of the brine. If the hams are small, they will cure in three weeks, if large, say five weeks; again, if the meat is packed loose, it will take more brine to cover it, consequently more salt will penetrate the meat in a given time than if it is packed close; on this account it is useless to weigh the meat and salt for the brine, as the meat must be kept covered with the brine, let it take more or less. Leave the casks uncovered until cool. When the hams have been in brine long enough I take them out and leave them in the cellar, if the weather is not suitable to smoke them. I consider clean corn cobs better for smoking meat than anything I have ever tried, and now use nothing else; continue the smoke until it penetrates the meat, or the skin becomes a dark cherry brown. I then wrap the pieces I wish to keep in paper any time before the bugs or flies have deposited their eggs on them, and pack them down in casks with dry ashes, in the cellar, where both hams and shoulders will keep as good as when packed, through the summer or year. Cured in this way it is hard to distinguish between the shoulder and ham when boiled.

A large ham will often taint in the middle before salt or brine will penetrate through.

How to Cure Side Pork.

So much for smoked meat; now if any one wishes to have his side pork a little better, and keep better than any he has ever had, let him try my way, and if he is not satisfied, let me know it through the Ohio Farmer.

Take out the bone and lean meat along the back, cut and pack the pieces snugly in the barrel, put more salt on the bottom and on each laying of meat than will probably penetrate the meat; then boil and skim the old brine (if it is sweet,) and add enough to it to cover your meat two or three inches over the top, made strong like the ham brine; and as soon as you pack your meat, pour the brine on boiling hot; it will penetrate the meat much quicker than cold brine, and give it an improved flavor.

While I was making and pouring the brine on my hams and pork just now packed, I thought the public might be benefited by a knowledge of my way of curing meats. I therefore publish it. Try it. A. Aylsworth, *in Ohio Farmer.*

THE CULTIVATOR.

ALBANY, N. Y., JANUARY, 1862.

☞ In opening a new Volume of THE CULTIVATOR—the Tenth of its Third Series, and the Twenty-ninth from its establishment—the Publishers tender the compliments of another New-Year season to their readers,—not the less cheerfully or sincerely because of the troubled times through which both City and Country are now passing.

The present Number, which is to renew our intercourse with so many friends of long standing, and to become the medium, as we hope, of an introduction to some new ones—contains a Farmer's banquet, to which we are proud to invite our guests. In something like *fifty different articles*, aside from the shorter Notes and the closely filled columns of "Inquiries and Answers," nearly all the manifold interests of the Farmer are represented, and we think we may fairly add, in both an instructive and interesting way. For variety, practical directness, and value, we doubt if more has ever been compressed into a single issue either of this or any other similar Journal. It is the kind opinion of an old friend and agent, as published on page 23d, who has been an active and careful reader of THE CULTIVATOR from the very beginning, that the "last Volume fully equals any of its numerous predecessors;" and we we shall hope to deserve a similar verdict upon the Volume now begun, when its course too shall have been completed.

Taking the present Number as an example, the subscriber to THE CULTIVATOR may expect in the course of the Year, to receive something like five or six hundred plain, pointed and practical articles for his Fifty Cents! If read with any degree of thoughtful attention, the money *cannot be thrown away.*

We therefore appeal to all who appreciate the character and objects of our Journal, to endeavor at this time to add to its list of subscribers. It has not only cheapness as a recommendation, in war-times; but, in comparison with its contemporaries, appearing more frequently and costing two or three times its subscription price, we do not hesitate to ask for it the preference and support of all who seek Agricultural intelligence and information, either as regards amount or kind. And we promise that it shall be behind none in these respects, nor in the degree of expense and labor devoted to its improvement.

For Terms, &c., see Business Notices on the last page. Specimen Numbers supplied freely, as may be requested. We trust no reader, to whom, upon careful examination, THE CULTIVATOR seems worthy of the popular favor it has so long enjoyed,—will rest satisfied until he has been enabled to send us a Club of eight or ten names at least for 1862.

Please Attend Early to the Formation of Clubs.

THE BLACK-KNOT.—H. T. Brooks of Wyoming Co., N. Y., says he had determined either to kill his plum trees or the black-knot. The consequence was that he killed or kept off the knot and saved the trees. This is unquestionably the right determination. Those who try to save both (by neglect) save the knots only, and these in abundance. Prompt excision at all times will make short work of the disease.

☞ In connection with the "WORLD'S FAIR" to be held next season at London, the Royal Agricultural Society of England have determined to give something of an international character to their customary Show. The location of this exhibition has already been selected in or near the city of London; and the Highland and Agricultural Society of Scotland, and perhaps other prominent societies also, are to omit their usual meetings, in order to concentrate the whole interest of the country upon the one held at the metropolis. This is to take place during the week commencing June 23d. At the meeting of the Society's monthly Council, Nov. 6, it was resolved "that there be separate classes, and that prizes be offered for foreign breeds of cattle, horses, sheep, and pigs," and His Royal Highness the President suggested that a committee should be formed for the purpose of immediately communicating with foreign countries, with a view of carrying out this resolution, and the following noblemen and gentlemen were requested to act on such committee—the Earl of Powis, Lord Feversham, the Hon. Colonel Hood, the Hon. W. Cavendish, M. P., Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Milward, and Mr. Wells; and, on the motion of Mr. Acland, it was resolved that it be referred to this committee to consider and to prepare a list of prizes, and to report to the next council.

There are some departments in the Agriculture of the United States which ought, by good rights, to be represented, either at this exhibition of the Royal Society, or at that of All Nations—particularly our Butter and Cheese and Grains. We know that some samples of Butter are to be ready for shipment, and we sincerely hope that both in this respect, and in Cheese, our best Dairy farmers may have fair samples of their products where English buyers and consumers can examine them; we have a foreign trade in these articles that it is well worth some trouble and expense to cultivate.

We should like also to have our best Herds there represented; and it is not impossible, indeed, that both Short-Horns and Devons of American breeding may be shown.

DEATH OF HON. HENRY WAGER.—The Utica papers announce the death of Mr. WAGER, at his residence in Western, Oneida Co., on the 20th of Nov. Mr. Wager was an extensive farmer, and for several years devoted a large part of his time to the promotion of the interests of agriculture. He was formerly President of the New-York State Ag. Society, and for eight or ten years one of the most active and useful members of its board of management. He was also for several years a very efficient officer of the United States Ag. Society, of which he was President in 1859. As one of the Trustees of the New-York State Ag. College, he also labored untiringly to promote the interests of that institution.

☞ We lately heard an old gentleman who has made his way to great wealth from a very small beginning, and who for some years past has interested himself particularly in agriculture, descanting on the importance to the Farmer and his hands, that their Meals should be promptly served at the expected hour. He appeared to think that punctuality, here as elsewhere, is one of the foremost of the virtues; and that where the housewife is never behind hand with breakfast, dinner and supper, "and always gets up in the morning good-natured," a Farmer's road to prosperity and success is straight and sure. "But," he added, "how can the meals be made ready with promptitude, particularly the breakfast, unless there is a due supply of proper KINDLING WOOD?" It struck us that, at this season, it might be appropriate to jog the memories

of husbands or sons, with regard not only to the preparation of Fuel for present use, but also to the provision of a sufficient supply against busier seasons of the year. If we could quote from memory the discourse of our friend just alluded to, the benefit of regularity and system in the Household Economy of the Farm would seem nearly as great as in its out-door operations; with order governing in both, we may secure the pleasant and profitable working of the manifold machinery, so to speak, of the farmer's life. It is not at all impossible that the wife has, in many cases, to bear the blame and burden of delinquencies which should really rest on other and broader shoulders.

☞ Short-Horn Prices do not go down in England, notwithstanding the general withdrawal of Americans from competition as purchasers. Our late foreign exchanges mention the sale of a Bull Calf by Mr. S. E. Bolden, well known as a leading breeder, to a gentleman residing near Liverpool, for 500 guineas, say $2,500. The age of this costly specimen was about 14 days, and he consequently cost his purchaser something like *a dollar and a quarter an ounce*, or nearly $20 a pound! "This is an unprecedented event in the annals of Short-Horn breeding. Whether a calf not three weeks old is worth 500 guineas, is, of course, a question that we cannot decide; but it may be said with truth, in reference to the seller, that an animal is worth what it will bring; and, with equal truth, in reference to the buyer, that the practical value of a prime-bred bull cannot well be estimated."

Drying up Cows.—A correspondent at Ottawa has a very fine heifer that has been nearly dried up by straying away, and wishes to know if its milking qualities can be restored. It is yet several months before she calves again. We have had no experience with such disasters, and cannot say what probability there is of her making a good milker in future. It usually happens when a heifer is dried long before calving, she is apt to run dry about the same time the next year, and to prevent this occurrence, she should always be milked very clean, and not soon dried. This rule is not, however, invariable. The best course would be to milk the young animal very closely, and give her plenty of succulent food, especially in autumn, or towards the time of becoming dry.

Apples in Western New-York.—The Orleans American says—"There have been shipped from this place, (Albion) this fall so far, 54,221 barrels of apples. This is pretty well, considering the apple crop was so nearly a failure this year. The probability is, that about the same number of barrels have been shipped from Medina and other points in this County. We understand there were between 75,000 and 80,000 barrels shipped from this port last year. It will be noticed that we had more than a two-third crop of apples in this section this year, as compared with last; the increase of price this year, over that of last, will afford nearly or quite as large a revenue to our farmers from this source, as in ordinary seasons."

☞ The Bee-Keeper's Association met at Cleveland, O., on the 20th Nov. The principal topics discussed, says the Ohio Farmer, were the best method of *wintering and feeding bees*. There were about twenty-five bee-keepers present from Ohio, Kentucky, Indiana and Michigan. If those interested in the rearing of bees knew how much valuable information they might get by attending these meetings, they would not grudge the time and money. The next meeting of the Association is to be held at Cleveland on the 14th of March next.

☞ "The Country Gentleman is much liked by the progressive farmers of Bucks county (Penn.) and is confessedly the best agricultural periodical now issued. Our Agricultural Society have introduced it in many places by awarding it as a premium in lieu of money.

Doylestown, Oct. 30. P. & D."

A French Crystal Palace.—An exhibition is appointed in France for 1865, in which every attempt will be made to outstrip all that England may have done previous to that time. Sir Joseph Paxton, it is said, has been retained by the Imperial Government, and a crystal edifice of unheard of proportions will rise on an elevated site near St. Cloud. A dome, 500 feet high, and of span capacious enough to enclose both those in course of erection at South Kensington, will crown Sir Joseph's new design. A complete plan of this palace, it is said, be sent over for the International Exhibition, and an ample portion of space will be accorded every country without application.

☞ The following statement is published with regard to the crops of Kentucky for 1859 and 1860, and Hon. L. J. Bradford, President of the Agricultural Society of that State, expresses the opinion in the Ohio Farmer that the crops for 1861 must "show a very large increase over 1860." As to present appearances he says that "the wheat, barley, rye and grasses look promising. Stock looks very fine; our pastures were never better at this season of the year."

Production of Kentucky.	1860.	1859.
Total number of Hogs,	1,009,153	1,544,274
Pounds of Tobacco,	97,906,903	95,505,548
Tons of Hay,	115,795	143,157
Pounds of Hemp,	7,691,816	10,101,157
Bushels of Corn,	61,005,316	51,995,956
Bushels of Wheat,	6,759,329	5,868,178
Bushels of Barley,	213,997	372,138

Yield of Wheat in Illinois.—Mr. A. J. Aney of Logan county, reports in the *Prairie Former*, that he has thrashed seventeen lots of wheat the present season, amounting in all to 727 acres, which yielded 11,696 bushels, or an average of 16¼ bushels per acre, including winter and spring wheat together. The yield of spring alone shows an average of about 15½ bushels. Mr. Any thinks these averages are about the averages of Logan and adjoining counties.

The Country Gentleman.—I have usually taken your paper, but thinking myself too poor to pay for it last year, I discontinued it, and now I find myself too poor to do without it. I therefore enclose you $5, and wish you to send me the Country Gentleman, with the back nos. from Jan. 1, 1861. C. H. S. *Point Fortune, C. E.*

The Clinton Grape.—This grape, although not of first-rate quality, and entirely rejected by some on account of its austere flavor, appears to be an admirable keeper. Cultivators who have made the experiment, have not found it difficult to keep till spring—when its peculiar quality is more grateful than at some other periods of the year.

The Annual Register of Rural Affairs.

The number for 1862 of this attractive, original and valuable little annual, has just been issued, and a copy has found its way to our table. The articles in this number, like those of the former ones, are all original, and chiefly from the accomplished and practical pen of John J. Thomas, one of the editors of the *Country Gentleman*, a journal which we have often commended as the foremost of our agricultural exchanges. The opening chapter is upon Farm Buildings, with several excellent designs for barns. The next article is entitled, "Vegetable Physiology, or How Plants Grow;" a clear, practical treatise on the elementary points in the study of botany, illustrated by sixty engravings A brief article on "The Grasses," with several illustrations, next follows. Mr. G. E. Woodward contributes an article upon "Balloon Frames," giving the *modus operandi* of constructing buildings by this method, with designs illustrating the text. The remainder of the work comprises short articles on Lightning Rods, Bee Hives, Fruit Culture, Domestic Animals, The Dairy, Rural Economy, Useful Tables, &c., making a work of 125 pages, and having over 150 engravings. We know of no way in which so large an amount of really practical and useful reading for the farmer can be obtained for so small a sum, and those of our readers who purchase a copy upon recommendation, will thank us for telling them where it can be had Price 25 cents per copy. Address L. Tucker & Son, Albany, N. Y.—*Maine Farmer.*

The Dairy Department.

ZADOCK PRATT'S DAIRY FARM.

The Farm of Col. PRATT of Prattsville, Greene Co., has been already briefly described and illustrated in the COUNTRY GENTLEMAN, but a very little repetition may not be unpardonable after visiting it in person.

It contains 365 acres, forty of which are fine alluvial soil—the residue, which is called hemlock land, (loam and gravel,) lying on the slope of the Catskill mountain. Altogether there are not probably more than 300 acres in actual use for farming purposes. As already intimated, the hemlock was originally cut for the purpose of obtaining the bark for use in Col. Pratt's tannery, and the land afterward cleared up, seeded down, and fenced with stone wall, of which about *five miles* have now been laid,—and the whole converted into a Dairy Farm, upon which fifty cows have been kept throughout the last five years.

As we have already published Col. PRATT'S statement as to the products obtained (see Co. GENT. for Feb. 7, 1861, page 98,) together with the plan of his farm, we pass at once to some points of practical interest in dairy management elicited in conversation with him and his manager, Capt. NEWCOMB.

About Butter-Making.

MILKING THE COWS.—It is important *always* to treat Milking cows with kindness; blows and harsh words have as much effect in rendering them ugly, as they would probably have upon children or human servants. Especially at milking, it is well never to forget that gentleness is an essential requisite; as far as possible to have the same milker always attend to the same cow, and in any case to have the operation *thoroughly* as well as kindly completed. By attention in these respects, "spilt milk," I was told, was an almost unheard of phenomenon here; the cows are, moreover, always milked in the stable, with a feed before them, and *with great regularity* at 6 o'clock morning and evening the year round. No one of these items should be overlooked.

CARRYING IN THE MILK.—The maids who do the milking are not bothered to carry in the milk as fast as a pail is filled; but some one else, generally Capt. N. himself, replaces the full pail with an empty one, carrying in the milk and registering its weight. It is then strained from the pail into a large can, stirred around with a long handled ladle until the foam disappears, and then ladled into the pans. Two points are here worth noting particularly: 1. If the milk is strained directly into the pan, the eye alone will be depended on as to the quantity poured in, and the foam gathered on the surface is thought to be just so much in the way of the rising of the cream. 2. The milk of different cows will differ somewhat as to the time required for the perfect rising of the cream; more careful watching is therefore necessary as regards each separate pan, if the milk is set separately, than if that of several cows is so intermingled before setting that the cream on all must rise alike.

SETTING THE MILK.—Tin pans are used of what is there commonly called an "eight-quart size." But on trial we found the pan actually to contain about seven quarts; it is large in diameter with flaring sides. The quantity ladled into each pan varies—in hot weather two and a half quarts, and in cooler weather three quarts. Inquiring how just these quantities should have been pitched upon, and why they are so carefully adhered to, we were told that accurate trials had been made with different quantities, until the foregoing had been decided on as giving beyond question the most cream. In cool weather the milk may stand longer than in hot weather, without danger, consequently it will bear to be a little deeper. The next thing for us was to ascertain exactly *how deep* the milk stood; and by measuring, it was found that in the pan containing 2½ quarts the milk was only *one and a quarter inches in depth*; in the pan containing 3 quarts, it was one and a half inches deep. This is a very strong argument in behalf of *shallow setting*, the practice referred to having been closely followed for two years past, and, as is thought, to very great advantage.

TIME TO SKIM THE CREAM.—If the milk fairly begins to be thick at bottom it is thought ready to skim; it may be allowed to stand until it can be cut with a knife all through, but there is great risk in too long standing—if it once begins to turn partly to water, the cream will have a bitter taste that can never be overcome.

TEMPERATURE.—The temperature of the milk room is kept at as nearly 62 deg. the year round as possible, and probably runs from that point to 65 deg., or in very warm weather perhaps to 70 deg. or 72 deg., but the latter are only exceptional cases.

CHURNING.—The churning is done in two barrel churns, the dashers of which are moved by an overshot water wheel of perhaps 14 feet diameter just outside the churn room. The quantity churned at once is 13 to 14 gallons, yielding from 30 to 33 pounds butter, in each churn. In hot weather the temperature is carried down if possible to 61 deg. at starting, by means of ice, as the agitation of the milk with the warmer atmosphere will heighten this temperature somewhat before the butter comes; but 62 deg. is thought to be just the right point if it can be got and maintained. Cold water may have to be put in to regulate the temperature during churning, but this is not done unless absolutely necessary.

THE BUTTER is now taken from the churn, and washed generally three times or until the water no longer brings away any buttermilk. It is next weighed, and salted with the best Ashton salt, sifted and accurately weighed out in the proportion of an ounce to a pound of butter. The only exception to this rule is in very hot weather when a slight addition is made to the quantity of salt to replace what will be dissolved in getting out the last of the buttermilk—say 21 ounces of salt to 20 pounds of butter. After salting, the butter is put in pans on the cool stone floor of the butter cellar, where it stands four to six hours before the last of the buttermilk is worked out, after which it may again stand until the next morning before packing.

PACKING THE BUTTER.—The new firkin has a pail of boiling water thrown into it, which remains there until cool; brine is then substituted which is allowed to stand for a day or two before the butter is packed. When filled with butter, a cloth is spread over the top, and a layer of coarse Turks Island salt, washed clean, placed upon the cloth. Temporary tops for the firkins are made of *round flat stones*, which are laid over them from the time the the butter is packed until the firkin is finally headed up to go to market. These stones are thought to keep the temperature cooler and more even than any other cover. The firkins, it should be added, stand upon a wooden floor resting upon joists, or upon the joists themselves, so as to let the air pass underneath them.

MARKETING.—It has been found the neatest way of marketing to take off the salt from the top of the butter, turn down the firkin to let the brine drain off, and then replace the cloth wrung out in brine. As to the keeping qualities of the butter, there is never any difficulty; its character, the season through, is remarkably even—the first time, for instance, of sending a lot to New-York last spring, April 2d, seven firkins were sent, of which three were new, and the other four kept over from the preceding fall; the butter dealer was afterwards asked if he had been able to detect any difference between them, but he had not, the whole selling as spring made butter.

Inquiries and Answers.

BAD WEED.—We have a weed which is just becoming very troublesome, a specimen of which I here enclose. It appears perennial, has a long root. It is only just this season getting into the fields here. I hear it is common in Germany. A. FRANCIS. *Canada West.* [This weed is the *Echium vulgare*, or Viper's Bugloss—called also Blue-weed and Blue-devils. It is known to the French by the name of *Herbe aux Viperes.* It is a very troublesome weed where it becomes introduced—it is an extensive pest in some parts of Maryland and Virginia. We advise our correspondent very carefully to eradicate every plant—"a stitch in time will save" one thousand.]

MAKING SAUSAGES.—"Our folks" are anxious to get a good receipt for making sausages, and would feel greatly indebted to you if you would publish one at your earliest convenience. H. W. H. *Merrillsville, Mich., Nov.* 21, 1861. [First, procure a good machine for cutting sausages, instead of doing it by the very tiresome old mode of chopping it by hand. Good ones may be had for some two or three dollars. Then, to every 100 pounds of the chopped meat, add two and a half pounds of salt, eight ounces of sage, and ten of pepper—and mix all the ingredients thoroughly. It is a common way among housekeepers to "cut and try," that is add a little more salt and a little more pepper and sage, tasting, and retasting, and calling in the aid of the palates of others, till the thing has too much pepper and salt, and is probably spoiled. The above rule is simple, easy, and good.]

DISEASE IN PIGS.—Will yourselves or some of your correspondents give me some information in regard to a disease by which I have lost a number of pigs. They seem to lose the use of their hind parts, and lie around, sometimes dragging themselves over the ground. Some of them seem to eat well, and others lose their appetite. One of my sows had eight pigs, and they seemed to do well enough till about three weeks old, and then died as aforesaid. Another sow had five, all looking well till a few days ago, one of them died, and now another is unable to use its hind legs, but eats corn well. The sows had been shut in small pens, but, till a few days, the pigs have run out. Their feed has been corn, milk and slops from the house. I can't find anybody who knows anything about it, or who knows what to do for them. I have fed sulphur on the recommendation of some, and also feed them stone coal once a week. P. F. *Dwight, Livingston Co., Ill.* [This disease is not very rare, and is termed *paralysis* by some. It is supposed to originate from indigestion or disordered stomach. We would recommend *charcoal* finely pulverized, and given with food in quantities at a time of about a heaped teaspoonful to an animal of 100 pounds, and greater or less for a larger or smaller animal. It may be increased if necessary till it operates as a mild purgative. A portion of green food may be useful, and strict cleanliness should be observed.]

WHAT IS A HEAPED BUSHEL?—What constitutes a *heaped bushel.* Some one may say, a *heaped bushel basket.* I know as a *practice* it does; but as a *rule* I know it cannot, and at the same time be *right.* One basket will have a larger top diameter than another; both hold the same when *level full*, but when *heaped*, the larger diameter will hold the most. It may occur to some that a perfect answer is, *two heaped half bushels*, or *one heaped bushel measure.* But there they will not be alike; that is, a *heaped bushel* measured in the two ways will not be the same. What then is the answer? What constitutes a *legal heaped bushel*? This is what I want to know. Will the COUNTRY GENTLEMAN please answer? "FULTON." [The United States bushel contains 2150.42 cubic inches; its dimensions are 18½ inches inside, 19½ inches outside, and 8 inches deep; when heaped, the cone must not be less than 6 inches high, or equal to 2747.70 cubic inches. That is, to make a heaped bushel, 597.28 cubic inches must be added to the struck bushel, which is equal to about three-elevenths added, or a little more than one quarter. If the measure gives less than this, it is too narrow and deep; if it gives more, it is too broad and shallow.]

CLOVER SEED.—I wish to get some information through your paper, from some one who has had experience in the business in regard to saving clover seed; and first, will clover seed be injured by standing in the field uncut till after freezing weather, when it ripens early, and is mature? And secondly, can it be sown in the chaff after threshing it, to good advantage? E. S. *Beekmantown, N. Y.* [Clover seed, if well ripened, and not sprouted or swollen, will keep well in the chaff, in the field. It will sprout freely in the chaff, after threshing, if sown very early in spring, and rolled in or very lightly bushed, or if the spring proves rather moist.]

FEEDING SHEEP.—I find your "Inquiries and Answers" one of the most valuable parts of your paper, and would ask—1. Which is the most profitable breed of sheep to buy to feed for mutton?—2. Is a Leicester or South-Down worth more by the pound, *live weight*, as a stock for feeding, than a Merino, all being in similar condition?—3. When, and in what manner, shall I commence feeding a flock of Merinos, intending them for sale in March or April?—4. What kinds and quantity of grain (and roots, if any,) should be given at the time of highest feeding?—5. What is the value of oil-cake as compared with corn—or in other words, when corn is worth 30 cents per bushel, as it is here now, what should be paid for cake? You published last spring a communication from S. Edwards Todd, Esq., giving his mode of fattening *cattle*, but I have seen no such detailed statement as to sheep. "G." *Oakland Co., Mich.* [These inquiries relate to matters of much practical importance, and we shall be pleased to hear the results of experiments made by any of our readers. Details of facts and experience are what is wanted, as they will afford the surest guide to practice.]

HORSE PITCHFORK.—Will you please inform me what kind of horse-power pitchfork is the best adapted to the wants of a farmer. So far as I can learn, there are none sold at the agricultural stores of this State. Where can they be obtained? W. H. BREVOORT. *Walesboro, Ind.* [We are unable to decide upon the merits of the different horse-forks, and we must refer you to the descriptions of the several kinds which have been published in the COUNTRY GENTLEMAN during the present season. A very good one can be procured of Emery Brothers of this city.]

HONEY LOCUST.—Is there any certain way to grow the honey locust from seed?—would like to try a hedge of it. W. H. *Milton, Ky.* [If the seeds of the honey locust are good and well ripened, they usually grow readily, although some prefer to scald them, as they do the common locust. In the latter case the seeds are placed in basins not holding over a quart or so, and boiling water poured on. After standing several hours, a part swell, and the process may be repeated on the rest after these are picked out. Larger quantities of water do not cool soon enough, and the seed might be destroyed by the heat. We have usually found the honey locust to grow without scalding.]

CUTTING BUSHES.—What is the best season of the year to cut bushes, and not have them sprout? O. MORSE. [In summer, after they have expended most of their energies in growth, but have not quite ceased growing—a time which varies with different bushes, according to kind, soil, season, &c.]

WEIGHT OF CORN PER BUSHEL.—Will you be kind enough to state the standard weight for corn in the State of New-York? We along the Pennsylvania line, are particularly interested in knowing whether it is 56 or 58 pounds to the bushel. I am aware that it was formerly 56 pounds to the bushel, but whether it has been changed or not, I am not certain. Some say it was changed to 58 pounds. J. F. O. *Bradford Co., Penn.* [The standard bushel of Indian corn in this State is 58 pounds.]

CULTURE OF FLAX.—I am anxious to get all the information that you can give about the cultivation of flax, and wish to know the best varieties of flax for quantity and quality. WM. FLOWER. *Montreal, C. E.* [We hope some of our readers who have had experience in the culture of flax, will respond to the above.]

SLITTING SAW.—Would it be out of your line to furnish a plan in THE CULTIVATOR, of a "Portable Upright Saw," for splitting fence stuff, palings, or sled-runners, and such like?—if so, would any of your implement-makers furnish a drawing so that I could construct one. My reason for applying to you for this is that I am no "inventor," but prefer to use things that have been tried and approved, instead of wasting my time about uncertainties. Moreover, I have been informed that your country people have a simple and compact way of building these. I mean such a machine as could be used with a one or two-horse power. I wish it for my own use, and not to make money by building them for sale. Moreover, I do not want to be harassed with any "Patent Rights."
Fairfield, C. E. RUSTICUS.

OXEN FOR "HORSE POWER" PURPOSES.—A long time ago a correspondent of the COUNTRY GENTLEMAN wished to know if oxen could be worked on an endless chain horse-power. Tell him yes, if he uses *wooden shoes*, to be put—

not on the oxen, but on the machine, in form of inch and a half strips nailed to every other cross piece in the platform on which the oxen stand. Use the oxen very gently, and but a little while at a time, till their feet and joints, and head too, (for the poor creatures become at first very dizzy,) are accustomed to the new work. By a little watching and training, their *irrigating* propensities may be controlled so as to take place while resting between heats. Otherwise the platform becomes wet and slippery. J. W. *Alleghany Co., Pa.*

APRICOTS.—Will you be so kind as to inform me through the COUNTRY GENTLEMAN, as to the best time for setting out and the best place for an apricot tree—also the manner of doing it, and oblige a subscriber to your paper. L. G. C. *Deerfield, N. J.* [Apricot trees require a dry bottom, with a cool rather than a warm aspect. Spring is the best time for transplanting. There is no peculiar treatment required, but only the ordinary precautions of taking up plenty of roots without mutilation, preventing their drying, spreading them out widely and evenly in the hole, filling in fine earth compactly among all the roots, and cutting back all the young shoots so as to lighten the head. The nearer the head is to the ground, the less will be the danger of the bark being killed by the sun's rays. Unless the tree is quite young, it will also be best to turn the same side towards the sun as before removal, as the bark becomes inured to the heat and bears it better after two or three years exposure.]

SPIREAS.—Your correspondent H. S. B., in his inquiry relative to Spireas, does not state whether it is the shrubby or herbaceous species concerning which he asks information. The mode of propagation of the herbaceous sorts is by division of the roots in fall or spring. The shrubby varieties are propagated by layers or by cuttings. The former operation may be performed at any time during the growing season by bending down one of the shoots and covering the lower portion with earth; the part so covered will soon take root and can be removed. Cuttings may be made early in the spring before growth has commenced, and planted in light soil, or they may be taken later in the season of half ripened wood, and with some protection from the sun and proper attention in keeping them moist, will soon take root. Such plants will of course be true to name. It is only when seeds are planted that there is danger of "sporting" as it is called. In the modes of propagation described above, each plant is a part of the parent and must be the same. G. B. H.

RAIN GAUGES.—Can you inform me through the Co. GENT. where graduated Rain Gauges can be had, &c. I should much like to keep a record of the fall of water in this place, but I do not wish to go to much expense, though the result may be agreeable, and to the public gratifying. W. M. B. [Rain Gauges can be procured at Dexter & Nelligar's in this city for $2.50.]

ARTIFICIAL HATCHING OF EGGS.—Please inform me through THE CULTIVATOR, how to construct an artificial hatching house, and for rearing the chicks. Is it best to have the fire in the hatching chamber or under it? Please mention the form, size, materials, the temperature best adapted for the purpose, &c. A. W. DAY. [It would occupy quite too much of our space to furnish all the details our correspondent desires, which we the less regret as we can refer him to Bement's "American Poulterer's Companion," where he will find all the particulars. We can send him the book by mail post-paid for $1.25.]

POULTRY.—I wish to ask a few questions of some of your numerous readers, to be answered through the "COUNTRY GENTLEMAN," about keeping hens. There is a large portion of the population of this country given to mechanical pursuits, in both towns and cities, and by such, answers to the following questions would be thankfully received.—1. Can a mechanic, owning no real estate, but renting a house and lot, say half an acre, keep hens with profit?—2. What breed of hens will bear confinement the best?—3. What breed are the best layers?—4. Can hens be made to lay ten months in a year?—5. What is the cheapest and best food for hens?—6. How many hens can be kept in a yard 50 by 100 feet?—Can you tell me where I can get the "Golden Crested Hamburgh" fowl, and the price per trio? W. C. D. *Falls Village, Conn.* [Of C. N. BEMENT—see his advertisement, page 341.]

CIDER WINE.—Will you or some of your correspondents, please publish a good receipt for making wine from apple juice, and oblige some of your readers. N. H. B.

DISEASED PIGS.—I want to ask the correspondents of the Co. GENT. if they have ever had young pigs get sore and crack about the mouth, and dwindle, and if so, what is the cause and remedy. A. M.

ICE-HOUSES.

"Would you recommend building an ice-house on level ground, or dig into a bank? X."

The ice will keep as well in a house on level ground, as in any other way, as long experience has proved; but there is a convenience in having a bank on one side for filling. If the soil is sandy or gravelly, so as to promote ready drainage, or if plenty of small stones may be used, for the same purpose, an ice-house may be built on the north side of a bank, so as to drive the load of ice on the south side, and unload downwards, instead of lifting up, as when the building stands on level ground. When dug in the bank, a dry or unmortared stone wall may be built; a few horizontal scantling placed against it and secured; and vertical boards nailed to these scantling. A loose floor, with stones for drainage beneath, will answer. A common roof may be built, and one or two windows, always open, near the top of the building. The great secret of success in keeping ice, is to pack in sawdust, (chopped straw will answer tolerably,) so that there shall be about eight inches of well packed sawdust on every side of the ice,—below, at the sides, and on top; or a foot or more, if chopped straw. The top must be open to the air at all times. We have tried to keep ice, by shutting up tight all the windows and openings, and found it to melt rapidly; we have opened these, and the melting ceased. The reason was, when closed, the air in the apartment above, or attic, became partly cold, and consequently heavier; it immediately settled by its weight down through the sawdust and among the ice; although it had been cooled in the attic, it was still warm enough to melt the ice. But when the windows were thrown open, the warm air entered, it was too light to settle down among the ice, and none melted. A board shanty will keep ice as well as the most elaborate structure, provided the mass of ice which it contains, is well packed with eight or ten inches of sawdust on all sides, and plenty of air admitted above. But if the sawdust is not well packed, and loose places or partial openings are left, the whole thing will prove a failure.

☞ We are pleased to learn that JAMES O. SHELDON, Esq., of White Springs Farm, Geneva, N. Y., has just received by the steamer City of Manchester an importation of SOUTH-DOWN SHEEP, consisting of a Ram and two Ewes—the former of which won the first prize as a yearling at the Royal Agricultural Society's Meeting at Leeds last summer, as well as the first prize, also, as the best ram in the County of Sussex. He was bred by WILLIAM RIGDEN of Hove, Sussex, whose name probably ranks as second to that of no other breeder of South-Downs in England. Our South-Downs, in the United States, ought now to have no superiors; during two or three years past we have apparently had the pick of the best English flocks.

It will be noticed from an advertisement in the appropriate column, that Mr. SHELDON can now spare a few head of SHORT-HORNS and ALDERNEYS from his excellent herds of these animals.

PENN. HORT. SOCIETY.—At the meeting of this Society held on the 18th Nov., the following persons were elected officers for the ensuing year:—President, M. W. BALDWIN; Vice-Presidents, James Dundas, B. A. Fahnestock, D. R. King, Caleb Cope; Recording Secretary, A. W. Harrison; Corresponding Secretary, W. Saunders; Treasurer, Robert Buist; Professor of Entomology, S. S. Rathvon; Professor of Botany, Dr. W. Darlington; Professor of Horticultural Chemistry, James C. Booth.

☞ The Emperor NAPOLEON has just bought a Short-Horn bull in England, for which the Court Journal states that the price paid was over £500, ($2,500.)

[For the Country Gentleman and Cultivator.]

WHEN TO CUT BUSHES.

We have no doubt but that late in summer, when the growth of the season is just ended, and the plant has expended all its energies in growing, and is just falling into that rest so essential to vegetable maturity, is an excellent time to behead these plagues of the farm. But we have tried another season, when the labors of the year were not quite so pressing as is usual in summer or early autumn, and have found it so successful in our case, that we hold it worthy of commendation to others.

Many years ago there was a dense patch of willows on a swampy spot at one end of the meadow. They covered about half an acre, and were so thick that any animal, biped or quadruped, would find it difficult to pass through the thicket. It was waste land, good for nothing unless it were for wasps and hornets to occupy in rearing their young, or for the bob-o-link to pour out his noisy clatter. More than this, it was a grievous eyesore, that closely embodied phalanx of willows in full view of the highway, and the first object that greeted the eye in one direction from the windows.

It was in our school-boy days, and it so happened, as was then customary in New-England, our school adjourned over from Wednesday night before Thanksgiving, until the following Monday, to give the teacher time to go home and visit all his cousins and neighbors, the big boys to skate and attend turkey shoots, and every one to enjoy themselves in the ways best suited to their fancy.

Cold weather had *set in*, in earnest. The ponds were all frozen over, and the streams flowed noiselessly along under their icy blankets—dark clouds chased each other across the horizon, occasionally spitting snow as from very spite, and the hoarse north wind piped in doleful notes the birth of the season of storms and snowdrifts, of sleigh-rides and singing-schools. Of course our old enemies the willows, were firmly lodged in winter quarters. At least Jack Frost had one end of them firmly secured in his unflinching, relentless vice. Taking that fact into consideration, in connexion with the other more important one that we had two whole days all our own, to do what we pleased, with the proviso that we must not be pleased in doing any sort of mischief, we resolved to open speedy hostilities on our old hateful enemies the willows, and accordingly with a sharp axe in hand, we commenced our warfare, cutting them off smoothly and rapidly just below the surface. Our progress in the business was very good in these two cold days. The improved look of the meadow was an ample compensation. We have no doubt we made better progress in our studies that winter for the triumphs of this two days labor. But this was but the beginning of the end in this business. The removal of the willows revealed old logs and stumps; and there must be drains cut to take off the water that had fed the willows. So it was concluded to fence off that end of the meadow for pasturing while this operation was going on.

The result was this: The bushes were cut so low, that the first thaw covered their stumps with water, which froze firmly over them. In spring the stumps were under water for a long time. Whether they drank too much in this drowning process, we shall not presume to say. This we know however, that the subsequent growth was a very feeble one, and the browsing of the animals pastured there completed the work of destruction so effectually that on restoring the old swamp to the meadow, it was as destitute of willows as the desert of Sahara.

We have another piece of swamp, on which much earth had been carried by artificial means, and which in 1859 had become a tangled mass of willows and alders. In January of 1860, we cleared off a portion of this swamp by cutting the crop in the same way as before, just below the surface, when the ground was frozen. Two seasons of growth have passed since then, and the new sprouts make but a very feeble show. Another cutting, which can be effected in a very short time, would probably eradicate the bushes entirely.

Now we do not claim that we have taken the best time to cut our bushes. We state when we did, how we did it, and the result, leaving it for the intelligent agricultural world to draw their own inferences. We think however, that in winter, if frost favors the object and there is no snow to obstruct, it is the best time for us, for then it will not interfere with the ordinary duties of farming, and labor is cheaper. Then the bushes being firmly frozen in, every blow of the axe will tell, and there is no mud to annoy the operator. We have some belief that the freezing and thawing over the stumps, and the water that settles over them in spring, has something to do with drowning out these mischievous aquatic shrubs.

Richmond, Mass., Dec. 1, 1861. WILLIAM BACON.

[For the Country Gentleman and Cultivator.]

Sowing Winter Grain Late in the Season.

A correspondent of the Co. GENTLEMAN, page 304, inquires with reference to sowing rye late in autumn.

Several years ago I had a mind to sow a field with rye late in the season, and upon making inquiry of many of our oldest farmers, I learned that this practice had been adopted with good success in a great many instances.

One good farmer told me that about the middle of December, (about fifty years ago,) in obedience to his father's request, he plowed about four acres of ground, and sowed it with rye, about one bushel per acre, and harrowed it in. On the next day snow fell about eighteen inches deep, and remained about that depth until the next March, when the grain had all vegetated nicely, and remained thus until the growing season came on. He assured me that he never saw a better crop of rye than this, even when it had been sowed early in autumn.

About four years ago I sowed a few acres of rye on the second day of December, and harrowed it in; sowed about five pecks per acre, and at the same time sowed about half an acre of winter wheat. On the next day after the field was finished, the ground froze up solid, and remained thus until mid-winter; but the grain did not vegetate until the next spring.

The rye was good, and perhaps better than it would have been had it been sowed early in autumn; but the wheat was not as good as I anticipated, and was very rusty.

When I was a small lad, I used to hear farmers say that rye should be sowed very early, say about the first of September, or very late, just before winter sets in.

Where the soil has not been well drained, I think it is far better to sow rye very late—so late that it will not vegetate until the next spring—than it is to sow it early in autumn; because when it vegetates in the fall it is very liable to winter kill, more or less; but when it is sowed so late that it will not vegetate until the succeeding spring, it will suffer no injury from this cause.

Any one who has doubts on this subject, can plow a piece of corn stubble, and delay sowing the seed until there is a prospect that the ground is about to freeze up, when the seed should be sowed and harrowed in, or drilled in, which is preferable, and rolled if it is at all lumpy.

A very light coat of fine manure spread evenly on the surface, and harrowed in, would be the means of producing a good crop. S. EDWARDS TODD.

BERKSHIRE PIGS FOR SALE—OF PURE BREED.
$5 each when six weeks old. WM. J. PETTEE,
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SOUTH-DOWN SHEEP FOR SALE.—I offer for sale a fine lot of pure bred South-Down Ewes, from 1 to 3 years old. Also Ewe and Ram Lambs, the get of a ram purchased of Sam Thorne. Price of Ewes, $8 to $12 each; Ewe Lambs, $10; Ram Lambs, $10 to $15. GEORGE HARTSHORNE,
Sept. 12—wtf. Locust Grove, Rahway, N. J.

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Nov. 14—w3tm2t. Office of the Boston Cultivator, Boston, Mass.

NEW-YORK OBSERVER FOR 1862.—In asking the aid of all who may desire to extend the circulation of the NEW-YORK OBSERVER, it is proper for us to state distinctly the position it occupies with reference to the present condition of public affairs in our beloved country.

Having always maintained the duty of good citizens in all parts of the land to stand by the Constitution, in all its spirit and letter, when that Constitution was assailed and its overthrow attempted, we accordingly at once gave a cordial support to the Government in its patriotic endeavor to assert its lawful authority over the whole land. Believing secession to be rebellion, and when attempted, as in this case, without adequate reasons, to be the highest crime, we hold

1. That the war was forced upon us by the unjustifiable rebellion of the seceding States.

2. That the Government, as the ordinance of God, must put down rebellion and uphold the Constitution in its integrity.

3. That every citizen is bound to support the Government under which he lives, in the struggle to reestablish its authority over the whole country.

4. That the Constitution of the United States is the supreme law of the Government as well as of the people; that the war should be prosecuted solely to uphold the Constitution and in strict subordination to its provisions; and the war should be arrested, and peace concluded, just as soon as the people now in revolt will lay down their arms and submit to the Constitution and laws of the land.

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The state of the country renders it important for us and desirable for the churches, that a new and earnest effort be made to extend the principles of good government and sound religious truth into all the families of the land. In every neighborhood there must be some who do not now take a religious newspaper, and who might with a little exertion be induced to subscribe.

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Nov. 28—w5tm1t.

THE ILLUSTRATED
1862. ANNUAL 1862.
REGISTER OF RURAL AFFAIRS.

THE EIGHTH NUMBER, for 1862, of THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS has now been issued from the press. In the attractiveness and value of its contents we do not think it has been surpassed by any preceding number. We submit below a partial abstract of its contents, which will show their variety and the extent to which they are illustrated—the present number of the ANNUAL REGISTER containing more than

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I. FARM BUILDINGS—THIRTY ENGRAVINGS and Four Designs.
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3. Form of Farm Buildings.
4. How to Plan a Barn.
5. Barn Basements.
6. Cost of Barns.
7. Design One—Barn for Fifty Acres or Less.
8. Design Two—Barn for Seventy-Five to a Hundred Acres.
9. Tool Rooms and Details in Stable Construction.
10. Design Three—A Large Three-Story Barn.
11. Design Four—A Small Three-Story Barn
12. Various Details.

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3. Process of Germinating in Plants having One and Two Seed Leaves.
4. Mode of Growth and Structure of the Plant or Tree.
5. The Root—Layering; Cuttings; Transplanting
6. The Stem and Branches.
7. The Buds and Leaves.
8. The Process of Growing.
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4. Entering the Earth.
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V. BALLOON FRAMES—TWENTY-FOUR ENGRAVINGS.
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4. Directions for Two or Three Story Buildings.
5. Siding, Lining and Construction of Partitions.
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VI. THE APIARY—THIRTEEN ENGRAVINGS.
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IX. FRUITS AND FRUIT CULTURE—ONE ENGRAVING.
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X. THE DAIRY.
1. On Cheese-Making by Beginners.
2. Hiram Mills' Way of Making Butter.
3. Two Valuable Rules in Making Cheese.
4. Butter Dairies of Chenango and Delaware Counties.

XI. DOMESTIC ANIMALS—TWO ENGRAVINGS.
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3. Wintering Sheep.
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9. To Keep Plows Bright.
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11. Provide Domestic Conveniences.
12. The Use of Rawhide.
13. How to Tan Rawhide.
14. Sap Palls.
15. The Cost of Fences.
16. Use of the Clod-Crusher.

XIII. USEFUL TABLES
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10. Force of Windmills.
11. Quantities of Seed to the Acre.
12. Quality of Different kinds of Wood.
13. Gestation of Animals.
14. Quantity of Garden Seeds Required for a Given Area.

XIV. ADVERTISEMENTS.

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